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NON SIBI SED TOTI

(A)

Class 10b No 14

Presented by

W. H. Pancoast, M.D.

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[redacted]

Physician's Recipe for tarrasmus

Calomel ℥i.

Gum arabic ℥ß

Sandrac ℥ii

Water ℥vi

Dr. Pancoast

Lectures on Surgery delivered by Philip Syng, Physic and Taken by A. B. Tucker in the years 1809 and 10 & 1810 & 11 - Enlarged in 1811 & 12

COLLEGE OF PHYSICIANS OF PHILADELPHIA

JUL 19 1897

That injury or accident, which in its nature is the most simple, & yet calls forth the actions of the part to recover from it, is a degree of concussion or perhaps contusion, which only produces a debility in the actions or functions of the whole or part. The part has nothing to do, but to expand & reinstate themselves in their natural actions & feelings —

The next in order of simplicity, is the rupture of a small blood vessel —

The 3d is where a number of vessels are divided —

+ Mr J. Hunter defines inflammation a morbid, increased action of the part —

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Inflammation.

There is nothing more necessary to the Surgeon, than the principles of inflammation, for as there is a certain degree of it necessary to resolve diseased parts to their natural state; so there are likewise other grades which are incapable of performing this restoration. Of course then, a knowledge of its principles, & also of its appearances, in the restoration of diseased parts is absolutely necessary to the Surgeon.

The term Inflammation was given to this process by the ancients from the supposition of an accumulation of fire in the part inflamed. Tho' this idea is attogether incorrect, yet the term answers well enough to impress an idea of that operation.+

It may be connected with another disease or not, instances of the former we see in Scrophula & Syphilis &c. Frequently improper treatment is the result of ignorance of the symptoms which a violent inflammation leaves behind it. for instance I knew a case of sprained ankle, which after the inflammation abated, was very weak, and medical assistance was called; the physicians prescribed tonic medicines, which threw the patient into a hectic fever.—

An inflamed part performs its function with difficulty; an instance of this we have in the eye; which

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+ except Burns, they produce an inflammation different from a wound –

which when violently inflamed loses the power of vision.

Inflammation is either healthy or diseased & is divided into three kinds - Adhesive, Suppurative & ulcerative - I shall only speak of the healthy kind at present.

Inflammation is not necessarily a disease, because disease always tends to the destruction of the part; but inflammation is sometimes necessary for its restoration.

Pain & redness

In its healthy state it is of a pure red colour, accompanied with a preternatural sensation; and if seated on the skin very often by itching, heat, & a dull throbbing pain - Weakness is never a disease but is often a predisposing cause of it - The remote causes of Inflammation are Chemical & Mechanical or Fever - To the first belong heat, cold, acrid or caustic & hard substances, & to the second Wounds, bruises &c.

Inflammation does not always follow immediately the application of its cause - a cause that will at one time excite an inflammation of one kind, will, at another time in the same constitution produce quite a different one effect.

Different remote causes have been supposed to excite different kinds of Inflammation; but I think the variety is owing to the difference of situation of the parts affected: for the same remote cause will produce Erysipelas in the face, & common phlegmonous inflammation in other parts - fever is sometimes the remote cause, as in critical Abscesses.

Inflammation

Inflammation depends greatly on habit: for example a person who is unaccustomed to work will blister his hands very soon - & one who is unaccustomed to high degrees of heat, will bear much less without injury than one daily exposed to it - if suppuration follow inflammation it is termed critical Abscess.

The healthy kinds of Inflammation are adhesive & suppurative - Adhesive inflammation is an increased ~~action~~ secretion of the coagulating lymph: it begins in the small vessels, & spreads from a point to a large surface, but is always greatest at the point where it commenced.

Suppurative inflammation is an increased action of the vessels, secreting pus.

In adhesive inflammation the matter which forms the union is coagulating lymph, the red globules are thrown out, but are again absorbed - When inflammation supervenes in a particular part, that part receives a more copious flow of blood thro' it, than a healthy part, in consequence of the increased action of the blood vessels; That there is an increased action of the blood vessels is proven by the part being of a pale red; if there was diseased action it would be of a purple colour; the diameters of the vessels are likewise increased, which is proved by Mr. Hunter's experiments on the ears of rabbits.

The swellings of inflammation arise, both from the thickening of the coats of the vessels, & from the extravasation of lymph - the swelling is greatest at the point,

where

+ Which is proven by a thermometer —

+ by a contraction of the inflamed vessels & absorption of the effused lymph
now that known contraction is very different from the action of inflammation —
H. G. H.

Dr Parcoar

where the inflammation commences — The pain is produced by the spasm or convulsions of the vessels, much in the same manner as is produced in a Cramp or Tetanus.

When inflammation precedes gangrene, it is of a purple colour — The heat of an inflamed part is considerably increased, but never rises higher than the source of circulation — The lymph secreted in adhesive inflammation becomes in time vascular & may be injected — Mr. Hunter proved that coagulating lymph was thrown out, by observing that the matter formed on the surfaces of inflamed cavities, corresponds in every particular with the lymph of the blood, when divested of its serum and globules.

The coagulating lymph is changed in passing thro' the inflamed vessels, for if it be thrown out on the internal surface of a vein it refuses to mix with the circulating mass.

The effects of adhesive inflammation on the constitution vary according to the degree of violence, & the part affected — It is attended with little inconvenience when seated in the skin & small extent, but in the thread of a tendon, or periosteum it occasions great pain, producing symptomatic fever: if the inflammation be great, the pulse is quick & full, & blood drawn is sizy — This inflammation often terminates spontaneously; in which case it is termed spontaneous resolution — A Man of 35 years of age received a bruise on the leg, by the fall of a bar of iron

upon

+ but should be called indurated Tonsils –

+ L of the Tunica vaginalis, forming Hydrocele

upon it, 6 days before inflammation came on - I was called to see him; his body was all in a ~~tumour~~ tremour; his extremeties were cold & clammy, his pulse small & quick; he was cured by a dose of Laudanum, & the application of a bread & milk poultice with Laudanum to the parts affected.

I have seen death caused by inflammation of lacerated wounds of the joints.

Tumours often occur in the breasts of women, & also in the throat called scirrous tonsils; which are produced by the effects of simple inflammation, occasioned by the lymph not being absorbed when the inflammatory action ceases ~~rises~~ - this takes place in glandular swellings, & forms what is called a schirrous tumour - By this it appears, that there is no cancerous tendency in the blood.

Inflammation also terminates by the effusion of serum - if there be any secretion from the part affected, the inflammation does not run so high - for example blisters that run well are much more easy than those that do not - it is highly probable that inflammation of the brain terminates in what is called Hydrocephalus Internus + - & of the chest by producing Hydrothorax - local inflammations are frequently removed by fevers.

Hamorrhage sometimes checks inflammation; a remarkable instance of this I once witnessed in the eye - an inflammation that had resisted bloodletting & other remedies, but was cured by the accidental rupture of an artery of the eyelid, which bled considerably.

If inflammation be not stopped by some of these means, it produces suppuration.

When

+ and particularly when situated near a vital part

+ Rest, a proper position of the inflamed part –

When inflammation arises from an accident, & proceeds too far, we should not attempt resolution – but otherwise we ought by all means in our power.

But there are cases in which it should not be attempted 1st In warm weather, lest tetanus should be induced, in which case a generous & cordial diet should be used – 2nd If occasioned by constitutional affection, as fever – 3d If it be owing to a worse disease: as before mentioned, a degree is necessary for the restoration of a part.

Treatment – To effect a cure, in the first place the remote causes must be removed – 2nd The inflammatory action should be removed; that is, the part should take on a natural one – This is to be effected by two kinds of remedies. viz. Constitutional & local – The constitutional are 1st Low diet bleeding, purging, neutral salts, antimonials, diluents, lama and water &c. And 1st Low diet, this tends to empty the blood vessels – 2nd – Bloodletting this is the most powerful remedy in inflammation.

Since inflamed bloodvessels are under the necessity of contracting to adapt themselves to the volume of blood; & since contraction is a very different action from inflammation, it allows the veins to take on healthy action, by diverting them from their inflammatory action.

Bloodletting acts in two ways 1st It removes the stimulus of distention, by lessening the quantity of blood – 2nd by lessening the violence of the blood itself. & diameters of the vessels

3d – Purging – This we are sometimes obliged to decline

+ To occasion nausea –

declinic, on account of attendent inconveniences - it acts likewise by lessening the action of the blood vessels - or if it produce nausea it acts sympathetically - Nitre, Sal Ammoniac, Sal Glauber have been advised - Antimonials have been sometimes combined with them - Mercury often acts powerfully in the cure of inflammation - 4th - Rest - This is highly requisite, the whole body should be kept quite still, & the room should be kept of a moderate temperature.

The local remedies are bleeding by scarifications, cups, & leeches - if a fever be caused by inflammation, general bleeding should always be premised - 2nd - Cold - This should never be used but when the heat of the part is disagreeable, & should not be carried so far as to become disagreeable to the patient, as it will prove injurious by acting as a stimulus -

3d - Vinegar, Sal Ammoniac & the preparations of lead, also laudanum are often employed -

4th - Poultices, & fomentations - These are either simple or medicated - The simple are bread & milk & flax seed - The medicated are the simple poultices mixed with medicines -

5th Blisters - These are of the utmost use applied directly to the inflamed parts: for in their recent state they produce resolution by the evacuation of serum -

Blisters are of use applied directly to the diseased part, when tetanus may be apprehended; they should also be used when we are fearful of large evacuations.

Of the good effects of adhesive inflammation there are many instances - 1st - The healing of wounds - 2nd - In abscesses; the cells of the contiguous cellular mem-

membrane are united by it, which prevents the pus from escaping from the cavity of the abscess - & so stops the further progress of inflammation — 3d - Cysts are formed for the lodgement of extraneous bodies - as balls - Shot &c -

I was astonished at the tenacity with which these bodies are held in their cysts when I attempted to extract some shot lodged under the skin —

4th In abscess of the liver or any other viscus, the pus in its passage to the surface of the body is prevented from escaping into the cavity of the abdomen by the adhesion of the affected part of the viscus to the parietes of the cavity -

---

Inflammation - Suppurative -

We come now to speak of Suppurative Inflammation. If Inflammation be not stopped by some means, as before mentioned, it proceeds on to suppuration - here the inflammation acts by secreting pus: & the suppuration which takes place is a ~~third~~ second remedy or mode of cure.

The contact of air to inflamed surfaces has been supposed to produce inflammation - I once heard a Professor say that he thought the action of air occasioned inflammation of the chest in a case where the pleura had been punctured by a red hot iron — notwithstanding the violence of the act, he imputed the inflammation to the action of the air - I once tried an experiment on a kitten - I made an incision thro' the pleura - thro' this orrifice I passed a tube & filled one side of the chest with air - I then withdrew

the

fluctuation being felt does not point

+ thorax or abdomen ~~cavity~~ the head as soon as ~~blood can be perceived~~

the tube & closed up the wound — in that situation it remained three days without any remarkable change; it was then suffocated & an examination was made, when no perceptible difference could be observed in the two sides.

I mention this to shew that air is not so noxious, as is often supposed & for to prevent surgeons from being too anxious about closing up a wound, with a view of keeping the air from the internal surface.

Where adhesive inflammation will not admit of resolution it goes on to suppuration — This is characterized by an increase of pain, often attended with throbbing or shooting; the swelling enlarges; the parts become softer, & at length a fluctuation is felt — it is now what may be termed an abscess or circumscribed tumour containing pus — Abscesses are often attended with rigors, which are succeeded by fevers & clammy sweats, which symptoms are removed by evacuating the pus — if the pain be very great it may be relieved by opium, this will be best effected, by combining the opium with small doses of Emetic Tartar. Dovers powder is very good —

A Poultice of bread & milk is usually applied to the tumour, in which a prominent part is discovered, & here an opening is gradually made by the absorption of the parts beneath the skin: ~~when this takes place~~ — however an opening is sometimes made by the skin & parts beneath it loosing their life & sloughing off — when this takes place it generally leaves a pretty large opening: 1st If the time of this natural opening be protracted too long it becomes necessary to make an artificial one — 2nd — If it be situated on any of the joints — 3d If attended with great pain as in paronichia — the pain of paronichia may be almost always

always

~~It exists sometimes before suppuration has taken place~~

removed by opium —

In suppuration attended with hectic fever, the constitution sympathises with the local irritation, which the powers of the constitution are unable to overcome - as when fevers are brought on by ulcers, affections of the tendons, ligaments, or any of the vital parts.

The symptoms of hectic fever are great lassitude, loss of appetite, cold night sweats, aptness to sweat on any little occasion, the pulse small, quick & frequent, urine high coloured & deposits a copious sediment - It often terminates in diarrhoea: the process of suppuration, sometimes suddenly stops, & the matter already formed is absorbed — It is a happy termination, & of course a desirable thing to find medicines which will produce this effect - accordingly many medicines are used for this purpose - Emetics & nauseating medicines are said to produce this effect — the matter formed in buboes has been absorbed by vomiting occasioned at sea — I have observed that blistering, purging & bleeding may be of use.

Hectic fever instead of being produced by suppuration as is commonly supposed, is sometimes cured by its promotion: an instance of this kind occured in an amputation of the leg — when the patient was affected with a hectic which ceased after the operation, when the surfaced quantity of matter were increased — a convincing proof that hectic fever is not the consequence of the absorption of pus.

Hectic fever has also been cured by establishing issues, which will also increase the secretion of pus — I have seen cases where hectic fever has proceeded from disease

in

in the joints, even when no matter was formed - If suppuration proceeds to fluctuation, so that it may be distinctly felt the opening should be assisted by making an incision into the abscess - it is a very general custom, to apply plaisters of different kinds, to assist in breaking tumours containing pus - such as ~~resins~~ ravins saccharine substances &c - - none of these do any good tho' that which has been applied next preceding the rupture, generally obtains the credit of producing the discharge - I believe they act merely by moistening the parts -

Blisters promote absorption by irritation -

Abscesses formed on the cranium should not be left to open of themselves, & such as impede respiration should be immediately opened - The tonsils are sometimes so enlarged as to impede respiration - They should always be lanced under such circumstances if they contain pus.

Matters do not always absorb towards the skin; that is, in tumours which contain pus, absorption does not always take place, between it & the external surface of the body - but sometimes makes its way more internally, hence the necessity of opening abscesses, when they form over joints or cavities.

I once knew a patient who complained of a periodical pain in the head, which afterwards was found to be owing to an abscess in the calf of the leg: upon opening the tumour the pain ceased — I have twice seen all the symptoms of a nervous fever, produced by a small abscess near the abdominal ring - In the first case the patient died, owing to the ignorance of the cause of the disease - In the second case the abscess was opened & the patient

recover

+ Those cases where respiration is impeded —

recovered – I have known one more similar instance situated in the axilla.

Abscesses seated on the face should be opened soon, to prevent the scar, which would otherwise ensue, by leaving it to open spontaneously, as it would absorb much more of the parts.

There are two ways of opening abscesses – 1st By incision – 2nd By producing an eschar, by means of caustic – the 1st should always be prefered, except in cases where the timidity of the patient prevents it – in which case a thin layer of Lapis Stipticus, moistened with water, may be applied for the space of 8 or 10 minutes; the part it touches will soon slough off, & give vent to the matter or pus; after this is discharged it is to be treated in the same manner as an ulcer.

Pus is a light straw coloured fluid of the consistence of cream containing a number of globules: it does not coagulate by heat if exposed to it, but evaporates to dryness; it does not readily putrify: it is specifically heavier than water, & is not easily miscible with it – it is not corrosive – it is said to be of a mawkish taste – it is distinguishable from the other fluids of the body, by its containing globules of a particular colour, which are suspended in a fluid, only coagulable by Sal-Ammoniac, which is not the case with any other animal fluids – Mr. Hunter has observed that it is a secretion – the vessels taking on the nature of a gland; & that the globules are not formed till after it is thrown out by the vessels – He observes that pus formed in 20 ~~minutes~~ hours after the application of a blister – its time of appearance is not uniform – when possible, suppuration should be obviated by resolution.

Inflam-

+ It is called ulcerative inflammation, because an Ulcer is the consequence of it.

+ tearing the cuticle & part diseased

Inflammation Ulcerative.

Ulceration, take place commonly after suppuration, and supuration takes place after the extraction of a dead part. In ulcerative inflammation a part is always lost, this is removed by absorption — It commences mostly after the suppurative stage, but it has been known to precede it in some particular irritations, or when sudden death of a part has taken place.

Pressure has produced this stage without suppuration; that part of the body separates first, that is nearest the surface.

The absorption of parts in ulcers, is always attended with inflammation & pain, which is called soreness; but this is not a necessary symptom of ulceration inflammation; for we find scrophulous ulcers are not painful, where they progress slowly but when they progress rapidly, they are attended with great pain. —

Burns — The morbid effects of fire,

produced by the application of heat differ according to the intensity, & length of time & the part affected its application, — The effects of Burns may be divided into three heads — 1st When the degree of heat is slight, & produces only a redness of the skin — 2nd — When more severe, causing a separation of the cuticle attended with an effusion of serum, as blisters —

3rd — Destroying the cutis vera, or producing death of the part, as by caustic, the heat of a burning coal, or of any of the melted metals — sometimes the are destroyed by the application of heat, & frequently terminates in death.

Burns

+ & in very old people —

Burns are most dangerous when of great extent & superficial, also on the head — And if on dropsical people, as in these cases they mostly tend to mortification —

When the life of a part only is destroyed, the patient does not feel any great pain, after the first effects are over, till after three or four days, when the inflammatory process of sloughing takes place for the seperation of the dead from the living part —

I saw a little boy, who undertook to walk the edge of a chaldron, which was filled with boiling water in a soap manufactory, his foot slipped, & he was plunged into the midst of the boiling water; he was not more than two thirds over, his clothes keeping the heat to the part a considerable time — he was greatly burnt, his pulse was scarcely perceptible, & his extremeties cold, a drowsiness prevailed, & he was very restless — he kept continually changing his situation — he spoke none at all, only when asked a question, & then he answered very rationally — & when questioned relative to his feelings, he said he felt no pain — he died in about 6 hours —— When those symptoms are produced by fire, the patient seldom gets over it — Burns affect old people most; tho' they affect greatly, & prove fatal sometimes to persons of all ages — Burns of the head sometimes affect the dura matter, which prove fatal — Burns occasioned by metted metals appear frequently to be of no serious nature at first — but after some time the skin & muscles slough off & leaves the bones bare — Hectic fever & delirium comes on & the patient dies — Burns occuring over large joints frequently produce alarming symptoms — hectic fever comes on, & amputation is

is necessary to save the life of the patient — I consider inflammation as resulting from burns, different from all other inflammations — in the first place the pain is of a different nature from that of any other inflammation, it being of a burning kind — 2nd — In not being capable of resolution, & causing ulceration — The parts underneath throw up fungous granulations, which are very difficult to suppress — 3rd — The Cicatrices formed by the healing of ulcers resulting from burns, have a much greater disposition to contract, than those from other causes — they also cause a much greater deformity of the part affected — 4th — They are cured by the most irritating applications, as Oleum Terebinthinum — Carbonate of Ammoniae, & stimulants in general —

Treatment — The remedies applied to Burns are very numerous — they are either general or local — Most authors advise the depleting remedies — but they should not be adopted, unless fever or great inflammation supervene — if the burn be extensive and great weakness attends, the patient may be supported on Bark & wine — & even brandy & water — he should have any diet of a nourishing nature, that he may desire — The pain of the part should be relieved by opium — if the extremities be cold apply sinapisms — if from this invigorating plan of treatment, inflammation or fever should supervene — Bloodletting & a more spare diet should be used —

Local

Always dipped in Spts. Wine

Local remedies generally advised, are cold water, Soapsuds - & Mr. Earle in a small treatise, recommends as above all other applications of that nature - Vinegar water - this is a good application - lime water & oil - this forms a kind of crust, like a cuticle - The common people use potatoes - however of late years very stimulating remedies, have been used - as red precipitate - volatile salts & spirits of turpentine —

Latterly Mr. Hentish has used spirits of turpentine combined with Basilicon - & I myself have used it in many cases, with the most happy effects - The most of these remedies, as cold water act as palliatives, relieving the pain, & soothing the part for a while - But the Turpentine & Basilicon spread on rags & applied are permanent —

Volatile alkali & vinegar are good remedies - I have used vinegar with very good effects — The Turpentine & Basilicon should only be applied to the inflamed parts, for if it be in contact with the sound skin, it will cause great pain, inflammation & swelling of the part — We are frequently not called to Burns for three or four days - & after a number of applications have been tried; even at this late period, I have not hesitated to use the Turpentine & Basilicon; & always with the greatest advantage — In one case of a Burn in a child the Turpentine & Basilicon was applied - but owing to the superstition of its parents, & the clamours of old women it was omitted three or four days without my knowledge - the child then became

worse

+ The Turpentine was not applied to the little finger in the first place

worse, & a fungous arose on the surface of the Burn — I was sent for again — the part was sprinkled with burnt allum, & the Turpentine & Basilicon again applied — which soon cured the patient —

In a patient that was burnt with Gun powder, this was used; the pain totally left him in about four hours after the application of the ointment the inflammation subsided, & the pain returned affecting his little finger; but again applying it — it quickly ceased, & he was soon cured.

Inflamed parts when in contact with each other, are very apt to unite, so that it is highly necessary for the surgeon to be careful, in keeping between inflamed surfaces, dressings of some kind, while they are suppurating & granulating — for want of care in this particular, many have been crippled — An instance of this came within my own observation — A Boy when quite a child unfortunately, received a scald on his thighs & scrotum — which from carelessness of the surgeon united — the Boy when arrived at the age of puberty — & finding his deficiency in performing the duties of a man — called on Mr. Hunter & craved his assistance in letting at liberty a small portion of his confined Penis, of which by the aid of Mr. Hunter he was gratified with about an inch —

This answers to shew that from carelessness of Surgeons in this particular, a man may be deprived of the use of one of his most useful members.

I also knew a case where the fingers of one hand all

adhered

+ we should also be careful in keeping the joints straightened by thin boards or paste board, otherwise they may become stiff & contracted by the formation of a cicatrix &c ~

+ sometimes of a bright Horn colour sometimes of a dark colour

adhered together, which still more evinces the necessity of keeping them apart. +

Burned parts sometimes form a ligature round the limb, stopping the circulation of the blood, & thereby producing mortification — when this takes place, the band should be cut through. ——

Besides those inflammations mentioned, there are others worthy of attention — These are Erysipelas and Phlegmon — And 1st — of Erysipelas — This is an inflammation of the cutis vera — It sometimes begins at the forearm & spreads over the whole body — it is frequently preceded by a shivering, which is succeeded by a hot fit — the skin is of a bright yellow colour in some places — & in others if you press your finger on the part, the colour disappears, but on removing them it returns — the pain is of a burning kind — The inflammation is often much diffused — frequently spreading in one part, while subsiding in another — lymphatic less than in adhesive. +

Erysipelatous inflammation differs from adhesive inflammation in this — the latter throws out coagulable lymph, but the former serum — frequently in the cells which form blisters on the surface — Sometimes the serum escapes into the cellular membrane, forming a tumour, which fills like a gangrenous vesicle & imparts to the touch a sensation like treading upon a gangrene — Suppuration sometimes supervenes running from cell to cell in the adipose membrane & causes death.

When mortification takes place in the

cellula-

when it attacks the fever it comes on suddenly with a scarlet colour — itching or tingling sensation

~~In London herb tea is used~~

to apply to about the limb —

cellular membrane, it is discharged in flakes like tow, & is very offensive – This is mostly the case when situated about the anus or Buttocks – Erysipelas mostly terminates in about ten or twelve days.

Causes – The remote causes are so similar to those which excite common inflammation, that I shall not now enumerate them – They sometimes commence spontaneously without any apparent causes.

Cure — It may generally be cured by attending to the antiphlogistic plan, before suppuration takes place — but when suppuration supervenes, it must be opened early, to prevent its escape through the cells of the cellular membrane –

Poultices before suppuration takes place are improper – Rye flour sprinkled over the part is useful & affords relief – The application of a Blister, so that it shall be applied, partly on the sound, & partly on the inflamed part, is of the utmost consequence — When the parts begin to heal, an excoriation of the skin like bran, is a favourable symptom – In England Bark is mostly used in this disease.

Oedematus – This exists in the skin tho' it may be seated deeper – in this inflammation water is extravasated with cellular tissue, & is probably the same as adhesive inflammation, occasionally taking place in dropsical patients. It is attended with burning pain –

+ but Blisters are the remedies ~

7. gangrene that state of the part just before mortification commences ~

+ lifeless insensibility

+ The blood flowing from the living into the dead part, produces the black colour in mortification ~

+ then changed to a deep purple colour sometimes fatten

Treatment — The usual application is Brandy, Bread & milk poultices mixed with it, or with Sac. Saturni.

Mortification — This may be termed the entire destruction or death of a part — it is of two kinds — I will begin by saying that the previous state of the system renders it more liable to mortification than at others; as in old people — habits affected with dropsy & as I before said it is of two kinds — 1st — Inflammatory, or that preceded by inflammation — 2nd — Debilitative, or that preceded by languor — The causes are 1st — Violent contusions, & the application of heat or cold — 2nd — Obstructions in the circulation of the blood, either by pressure, or the tying up of the principle artery — They both operate in the same manner, by cutting of the necessary supply of blood — When a part loses its life, it becomes purple, then livid, & afterwards dark — the cuticle soon seperates from the other parts — In cases of violent inflammation, the evacuation should be promoted, & Opium given to relieve the pain — bread & milk poultices applied to the parts — & there continued till they slough off —

Intense cold, or heat, if not severe enough to kill produces 1st — Paleness of the part exposed, which is succeeded by redness, attended by a burning sensation, turgefaction & soreness of the part affected — Snow & the coldest spring water should be applied to the affected part after which the warmth of the part should be gradually increased to a comfortable state — Mortification often comes on without any apparent cause —

Of

+ The blood vessels in this kind of mortification is sometimes completely stifled –

+ becomes purple –

+ Lamb with volatile liniment

Of Mortification preceded by inflammation — there are two kinds — 1st — When the inflammatory action is too great for the powers of the part to support — 2nd — There is something peculiar to the inflammation, besides the violent action producing death, or that from the degree of fever — Wine injected (by a clumsy operation for Hydrocele) into the cellular membrane has also produced the same effects —

Mortification often takes place in the toes of old people — it begins with pain, & slight inflammation of a purple colour — vesications sometimes takes place around the edges, but not always — Its progress is for the most part slow — the upper part of the foot swells, & the cuticle becomes detached — I have known it to arise from the prick of a knife in cutting corns — mortification is produced by rubbing a painful part

Cure — Opium is the best remedy — all stimulating medicines, as the essential oils are to be ordered — never apply scarifications or stimulating medicines to cause the parts to slough off — because when the mortification ceases, the parts will seperate of themselves — Blisters are ~~not~~ useful in this disease.

It has been advised to amputate in this disease, but this should not be done while the mortification is progressing, lest it should attack the stump, & the patient undergo so much pain unnecessarily.

In a case of a mortification of the foot which came on with a very offensive smell — I was induced to amputate, at the particular request of the patient, contrary to my

opinion — it was performed a little above the ankle — The arteries were completely ossified — so much so that I was obliged on tying them to press the sides together with my thumb & finger to prevent hemorrhage — a circumstance which often occurs in such cases —

Pressure often occasions mortification in the parts contiguous to the sacrum, in people who are confined to their backs from broken bones, & other causes — I have seen mortification in the arm from the pressure of the bed clothes —

Symptoms — are a burning sensation, a dark red colour, disappearing when pressed, & returning slowly — A tumefaction takes place, which readily receives the impression of the finger — small blisters filled with serum rise round its edges — as the disease advances the red globules are thrown out — the part loses its sensibility — the circulation becomes languid — the part loses its natural warmth & gradually becomes dark —

Cure — In the first place the exciting cause should be removed — If my theory be a just one, that the disease depends on too much action — then all stimulating oils, Balsams, Cordials, scarifications &c should be avoided — all the hot fomenting poultices should likewise be avoided ——

I would recommend the following plan as the most likely to obtain a cure — 1st — General — 2nd — Local —

The general remedies are bloodletting if inflammation be present — If it proceed from languor of the parts, Opium

should

+ to remove exciting causes

should be given, with high diet, Bark &c - If the patient be accustomed to the use of wine, it may be continued in every instance.

Local remedies are Blisters to the parts affected - Charcoal poultices are of great use to prevent the smell of the diseased parts - When mortification proceeds from Erysipelas, & pus has made its way into the cellular membrane, it should be laid open freely & treated with Bread & milk poultices - I have long been in the habit of using Nitric Acid diluted with equal parts of water - it corrects the fœtor by checking the putrefactive process - It may also stimulate the absorbents into a quicker action, & cause them to seperate the dead parts more speedily - it should not however be applied too near the living parts, or it will cauterize them - If the weather be very warm, Maggots are apt to form in the dead parts - washing them with diluted acid will remove them. - as water & nitrous acid -

The 2nd - Species of inflammation is that peculiar kind which produces Carbuncles - These are circumscribed, broad, flat, hard Tumours - they begin on the skin like pimples - are of a dusky red colour, with pale edges - attended with a burning pain - A kind of suppuration takes place in the cellular membrane - but good healthy pus is never formed - they are mostly situated on the back & sides - & are most commonly in persons who have lived well - they are very dangerous if large & numerous - they sometimes occur on the head, tho' very seldom - they are much more dangerous if on this part - much depends

on

+ I have lately opened the carbuncle by apply caustic 10 or 15 minutes (the lapis septicus) with the effect of completely relieving the distressing pain which always attends this inflammation —

on the constitution — A case of Dr. Wilson will serve to shew the peculiarity of the inflammation — he was called to a man of about 50 years of age, in consequence of a Carbuncle on his leg — a circle of inflammation surrounded the tumour, & after trying a number of remedies for several days without effect — Dr. Monges was consulted, who said he had seen many such cases in France, & had cured many of them with scarifications transversly about 1/4 of an inch apart, all over the surface, & then a circular incision around it — this effectually cured it by changing the mode of action to that of adhesive inflammation —

Blisters I believe have of late been found as effectual in the cure of Carbuncles as of any other kind of inflammation — especially in relieving the uneasy distressing sensation of the burning — always a concomitant of this disease. I lately cured one on the back of a lady as large as a common plate, which she compared to a warming pan of hot coals — as soon as a blister was applied, the mortification stopped — the dead parts sloughed off in a few days — & the sore speedily healed kindly.

Some years past I was led, from the great uncertainty of the remedies used in Gangrene, to seek for remedies more certain & effectual in their operations — & from the good effects of Blisters in many cases, I was led to try them in mortification & they succeeded beyond my most sanguine expectations. —

The good effects of Blisters may be seen in Dr. Cox's museum in a case of R. A. who under a mistake

had

1. Suppose these A could not be done in the
C. B. bled
2. After 3 or 4 weeks do you suppose the muscle

had used P. Persicaria in a common office of life — in consequence of which a common inflammation ensued in the neighbouring parts & on the scrotum — The Antiphlogistic plan was tried without any benefit — & after resisting Bark & other remedies in the most dangerous state — it was cured by the application of a Blister to the part affected.

The great pain in inflammation is caused by the distention & spasms of the vessels — A patient of mine was affected with a violent pain in the foot — a small reddish spot was seen — the top of it at first appearing like ecchymosis, which afterwards disappeared — & then came again a little above the Ankle — the patient now complained of great pain, when the foot was lifted up, which was somewhat abated when it was again put down — owing to the diseased action of the vessels — because the blood filling the vessels overcame the spasms, which were the cause of this pain — for when the foot was raised the vessels were emptied of the distending blood, & the convulsive action took place — A charcoal poultice was applied over the foot — his bowels were disordered, owing to his having taken too much Laudanum — this was removed by a purge — the Bark was given largely — to the extent of half a pound in 24 hours, but without any good effect — applications of Bark & brandy were made to the stomach, & gtts v of volatile Alkali given every two hours — The Bark was now omitted as it was found to be of no service — Some senna & manna were given to obviate costiveness — the mortification still continued — A Blister was now applied which stopped the mortification, & changed the livid colour, which passed to a red below the blister — The fomenting charcoal poultice was now omitted, & another

blister

blister was applied just below the other, on the limb, which was of a dark colour — The dead part was washed with diluted nitric acid — the mortified part after this sloughed off gradually — & the patient is now recovered.

When mortification is caused by inflammation, a Blister should always be applied — Mr. Hunters theory of mortification is I believe pretty generally received — viz — "An increased action beyon what the parts are able to bear" — but I am inclined to think, that in every species of mortification, there is something peculiar, leading to the death of the part — something more than violent inflammatory action — For if it depended on that action alone, the application of a blister, which is highly stimulating, ought to produce the death of the parts more quickly by producing a still greater degree of action — But I believe they effect a cure, by altering the disposition & changing the mode of action from a diseased to a healthy kind. —

Mammary Abscesses —

Remarkable instances of ulceration attended with inflammation, occur in the breasts of women — these may be either seated in the glandular parts, or cellular membrane — it seldom occupies the whole breast — if a part of the glandular structure be diseased, the secretion of milk is considerably diminished — but if the whole of it be affected, then it is suspended altogether — It is attended with shooting pains that extend to the axilla — If the abscess be seated in the cellular substance — the secretion of milk is not much impaired — they are mostly preceded by a

chilly

+ To which fever succeeds —

chilly fit, accompanied with pain of the affected part — there is sometimes more than one tumour felt — the time when this disease mostly takes place, is about the third or fourth month after delivery — tho' women are always subject to them while they continue to suckle. —

These cases we seldom see, untill they have arrived at a considerable degree of soreness, owing to the nurse considering herself quite competent to the cure, tho' they always fail in their attempts —— Altho' suppuration is mostly the result of inflammation of the breast, yet I have seen it terminate in oedema — & the swelling be so great, as to hide the nipple — the swelling came on in about 10 days after delivery — & I was called on in about 6 weeks afterwards —

When adhesive inflammation takes place, coagulating lymph is sometimes thrown out, without being again absorbed, after the inflammation has subsided — this constitutes what is called indurated gland, or Schirrus — I have seen them as large as a mans fist — these are not to be considered as cancerous, because they have not yielded to the antiphlogistic plan of treatment — these affections are owing frequently to mechanical violence or tight dresses, & a straining of the vessels, by a too long retention of the milk — they are sometimes produced by persons taking cold — in those cases where the glands become indurated, they seldom return to their former size — sometimes the glands are very much reduced in size, & never after secrete milk. —

Treatment — If called in the forming state, bleed according to the strength of the patient — exhibit

+Local depletion by Leeches &c. is of no use without general depletion has been premised —

+ Dr Physick mentioned the case of a lady who had been 9 months affected with what might be called a sinous mammary abscess which was healed in a short time by means of a seton —

exhibit mercurial purges – & put the patient on the most regular diet – the breast should be anointed with warm oil – if it be convenient the patient should be confined to her bed – if not the breast should be supported by a handkerchief, tied around the neck – if inflammation continues bleeding may be continued, the application of leeches to the part, will be found of great utility – bread & milk poultices with lead water, are highly serviceable, after the evacuations have been premised — If these do not relieve, & inflammation continues, a blister should be applied – this is not so painful as might be supposed – women who have not enjoyed rest for many nights before, have been known to sleep soundly while it was operating – but it should be recollected that the evacuations by stool should be kept up —

A great variety of plaisters have been recommended & used – but I believe they are of doubtful efficacy – the application of Sal. Ammoniac & vinegar has been advised, but it is of no use – Suppuration does not very commonly take place, if properly treated from its commencement, but most frequently from delay in calling a Physician, or want of judgement it does occur —

If it become necessary to open the Abscess, it is sometimes advised to do it freely by making a large slit – but I have succeed by making a large puncture into the Abscess & introducing a bougie to keep it open – the bougie must be moved to discharge the pus within every hour or two –

In a case of Oedema, I applied Sal. Ammoniac & mercurial Ointment to the part – & depleted generally

by

by bleeding & purging – but without any effect – when the application of a blister removed the complaint – I removed an indurated gland, attended with slight fever, (the fever was cured in two weeks by two bleedings & the antiphlogistic plan was adopted) by blisters, & afterwards dressing with mercurial Ointment –

Mercurial Ointment is good in resolving tumours – weakness in the joints, & more particularly those of the hip, without any apparent cause – it is generally a species of inflammation which may be cured if taken in time, by purging every other day with Cream Tartar & Jalap – for 3 months, low diet & frequently bathing in salt water –

Swelling is caused by a secretion of the coagulating lymph into the cells of the cellular membrane – vessels which are inflamed, carry a coagulating lymph which adheres to their internal coat & becomes vascular –

Paronychia – This is a violent inflammation occurring most ly on the ends of the fingers, which frequently end in suppuration – according to the seat of the disease, it is attended with trifling or excruciating pain – Paronychia may be divided into four kinds – 1st when seated in the surface of the cutis vera – 2nd – In the Adipose membrane under the skin, where the pain is much greater, & matter is effused, frequently under the nail, the finger becomes swelled, & painful – 3d – In the thread of the tendons – 4th of the periosteum – In this last case the pain is very great, tho' without swelling at first – When it takes place in the adipose membrane, there is a greater chance of mortification taking place – The matter formed in the two last species of paronychia has sometimes passed along the course of the

tendons

tendons, under the ligament at the wrist, & formed a tumour on the lower part of the fore arm — the bone often becomes carious, & sometimes the tendons slough off — I have seen mortification from this cause — It is a difficult matter to point out the causes of a whitlow — I have seen it in one instance induced by the bite of a squirrel to splinters &c —

Cure — In the cure little attention is necessary to be paid to the first cause — but the first species may be opened & dressed with unguentum citrinum, or simple ceratc — containing Sach. Sat. — When situated deeper than the skin an incision should be made down to it, & if any part of the bone be decayed, it ought if possible to be removed — the dressings should be dry lint or a poultice — Boiling water has also been recommended in cases of Paronychia — I believe when it is of any use it acts as a rubefacient — Nothing else however is necessary than opening the part — If matter has travelled up the wrist, it should be let out at the most protruding part — sometimes the orrifice if small grows up with fungous flesh, & prevents its healing — for destroying this excrescence — escharotics will be found tedious, & often ineffectual — It should be remedied by enlarging the incision. —

Psoas Abscess.

This disease is seated in the cellular membrane surrounding under the Psoa muscles — where the matter is seated in a cyst of the cellular texture — any of the remote causes of inflammation may

may produce this disease – but it is produced most commonly from rolling in bed, bruises & carious vertebres – it generally follows the course of the cellular membrane down along the bones in its progress towards the surface of the body –

Symptoms –

The side feels weak, the patient cannot well stand or rotate the thigh – when standing the patient relaxes the muscles of the body on the side affected – he has frequent rigors – It sometimes happens that months escape ere any one symptom of it can be seen – Its situation is anterior – it is not the same always – it sometimes forms in the loins – & I have seen it form on the Buttock – sometimes it is situated on the upper part of the thigh – sometimes at the lower – The integuments of the Abscess are not discoloured – the tumour is not tense when the patient stands up – when lying down it is soft & flaccid – if pressure be made on the abdomen it will be flattened & the tumour produced on the thigh – & vice versa – Coughing renders it more tense – the fluctuation may be readily felt – The Abscesses never opened forward into the cavity of the abdomen – but sometimes have destroyed the sides of the contiguous vessels, & thereby produce a fatal hæmorrhage – If they exist long, they may occasion a Carious vertebræ – When it protrudes at the upper part of the thigh it appears like Hernia – It has also been confounded with Fistula in ano, & Buboe –

Treatment –

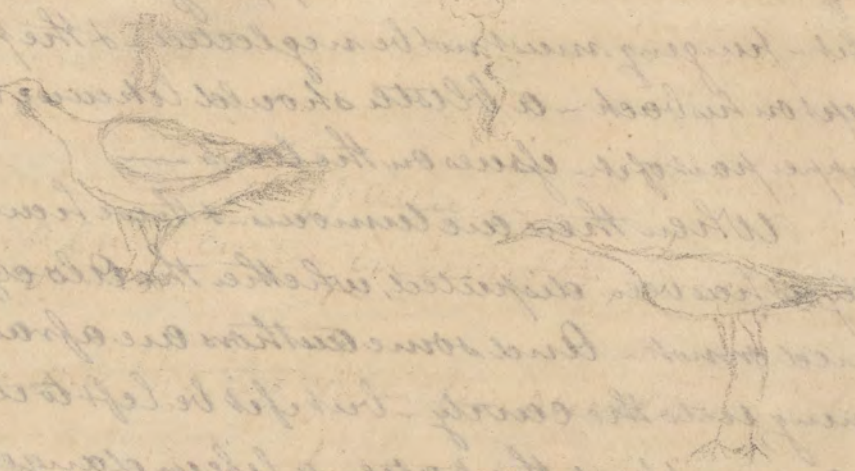
If we are called to see the patient soon – we must endeavour to keep him at rest, & avoid all animal food – Bleeding – Scarification

Scarifications on the back – Cupping &c – are all of much benefit – purging must not be neglected – & the patient must be kept on his back – a blister should likewise be applied to the upper part of it – issues on the loins ——

When there are tumours – & these have formed externally, it has been disputed, whether the Abscess should be opened or not – And some authors are afraid to make an opening into the cavity – but if it be left to itself & is long of opening it puts the patients life in danger –

Mr. Hunter says that all cavities will inflame if opened – when the incision does not heal by the first intention – he also observed that the inflammation would attack every side of the cavity – which is the cause of all the symptoms which follow – Mr. Abernethy, no doubt taking the idea from Mr. Hunter, has proposed to open it, so that the sides of the wound, may unite by the first intention – he has proposed to open it with a lancet – the puncture is to be made in a longitudinal line with the fibres – An incision is first to be made thro' the skin – & then the lancet is to be pushed obliquely thro' into the abscess – by which means a valvular opening will be made – we should use no probes, or any thing of this kind, to ascertain the depth of the sinus – because they would irritate the part – & by chance break any little blood vessel – After the matter has been discharged, bring the edges together with adhesive plaister – After the discharge has been made in this way three or four times, it may be opened with the lancet freely, without any danger, as the sides will be brought so close together as not to become inflamed – This is the

best



+ also the size, the degree of violence done to the fibres, the power which the part has, of repairing the injury sustained — & its great importance to the constitution —

+ according to the number & size of the vessels divided —

best method of treating these abscesses — I have tried this method myself, & I find it to answer extremely well, altho' I have never been able effectually to cure the disease — because all the cases I have seen have been connected with carious vertebra — But very unfortunately the puncture does not always unite by the first intention — & When this happens, the inflammation which was spoken of before, & which is the fatal cause comes on — here Dr. P. relates a case, but it is not of consequence to insert it —

Wounds. —

Wounds may be defined, a seperation of the external parts by mechanical violence — they differ according to the part injured, and the instrument by which they are made* —

There are two kinds of wounds — 1st — Incised — 2nd — Contused — An incised wound is made by a clear, sharp cutting instrument — & simple in its nature — A contused wound is always made by a bruising of the soft parts — & is devided into three kinds — Lacerated — Punctured & Gunshot — wounds are always attended with a greater or less effusion of Blood† — from incised wounds there is generally a considerable flow of Blood — but in Lacerated, large vessels are often divided without any considerable hæmorrhage — incised wounds bleed much more than contused ones, because in the first place there is nothing to prevent the flow of blood, but in contused wounds, the dead matter at the ends of the arteries, caused by the contusion — acts like a stimulus to the coagulated blood — I once saw a case where a boy had his arm ground off by a mill, between the elbow & shoulder — in

in this case no haemorrhage ensued, owing to the contused ends of the arteries, causing the blood to coagulate in the extremities & form plugs, stopping the hemorrhage in the same manner as if the ends of the arteries were plugged up —

There are three causes that tend to stop bleeding from contused wounds — 1st — The artery loses its power of keeping up the circulation, which it posses'd before the injury — 2nd — By pressure caused by the effusion of blood into the cellular membrane, which acting on the sides of the vessels, diminishes their diameters — in like manner as thrombus in bleeding from the arm — 3d — By the coagulation of the blood forming plugs, in the extremities of the vessels —

Bruised parts cannot bleed much, the discharge is stopped by the bruise causing a coagulation of the blood, & hence stops it more speedily — The coagulation takes place first, round the edges of the vessels — Contused wounds, by violence of pressure, occasions the death of the ends of the vessels —

In incised wounds, the first thing that ought to be attended to is the flow of blood, & this is sometimes in great quantities — but not unfrequently after a short time stops spontaneously — a coagulum being formed — If this be not the case, it may sometimes be stopped by pressure made by the fingers — but should this fail, a Tourniquet must be applied — if the wound be above the hand, it should be applied above the elbow — if below the knee, it must be applied on the thigh, because there being but one bone in these parts the pressure will be more effectual — if it be applied on the thigh, a compress must be applied directly on the artery — & then the Tourniquet —

The

The hemorrhage being stopped, the part must be washed clean, with warm water & a sponge - & a search made for the bleeding vessel - which being found must be drawn out with a Tenaculum, & tied with a ligature - it will be necessary to tye both ends of the bleeding arteries - otherwise the hemorrhage will be caused on by the anastamosing branches -

When an artery is divided in the body, so that it cannot be got at - it is necessary to pass the Tenaculum with the finger (after tying a simple knot over the finger & Tenaculum) till you come to the artery - as soon as you can get hold of it, slip the noose over & secure it - In cases where the Tenaculum cannot be used - where the vessels are so situated, that we cannot see their bleeding orifices - recourse must be had to the needle, passing it round a portion of flesh & tying up all together - if the orrifice of the wound be too small enlarge it with a scalpell - If the injury be received on the arm, the Tourniquet cannot be used - here compression with the finger must be made on the subclavian artery, just as it passes over the first rib - or if the injury be of the artery on the upper part of the thigh, it must be made just as it passes out of the abdomen - Sometimes pressure may be made above the wound long enough for the formation of a plug or coagulum in the extremity of the divided vessel, & so put a stop to the bleeding -

It sometimes happens that vessels are divided in such situations, as not to admit of this kind of treat-

ment

treatment as in the extraction of tumours of the mouth which are supplied by three or four arteries – if one vessel only be divided, the hæmorrhage may be stopped sometimes by holding a compress of lint for a few minutes on the bleeding orrifice – If the effusion take place from a number of small vessels, it may be restrained by compresses of lint – cold – vegetable adstringents &c. – but if this be insufficient we must have recourse to the antient but cruel method – the actual cautery – we sometimes find when the vessels are injured, if the external communication be small, that the coagulum of blood in the orrifice will stop it –

I saw an instance of this kind, where a boy in wrestling with his schoolfellow, received a wound in the ham with a penknife – the immediate consequence of which was an effusion of blood into the cellular substance of the muscles; causing a considerable tumour & great pain – the whole calf of the leg was very much distended – In this situation he walked home, increasing both the pain & the tumour – he went to bed. & next morning the pain & tumour were both gone – supposing himself well, he got up, dressed himself & went down stairs – when the tumour immediately returned, he went to bed again & the tumour subsided – This alteration was experienced two or three times – I was now called – I immediately pronounced it a puncture or wound of the Popliteal artery, & I put the boy to bed, & raised the limb to take off the force of the blood by its gravity – The column of blood was lessened considerably by 2 or 3 Bleedings – & in about a fortnight or 3 weeks

he

he was quite well – In such cases no probe should be used to ascertain the depth or situation of the wound, lest you destroy the plug formed in the orrifice of the artery & bring on hæmorrhage – The practice of some Surgeons stuffing the parts with lint, is very injurious & ought always to be avoided, lest you tear open the coagulum which nature has kindly formed – After stopping the hæmorrhage, Adhesive plaister & bandages must be had recourse to for approximating the edges of the wound – & if the injury be above the extensors of the limb, it may be necessary to apply a long splint, to secure the limb in an extended position —— In most cases adhesive plaister will be sufficient, but in wounds of the abdomen sutures must be used, or else the patient will be liable to hernia at that place —— The coagula should first be wiped away, & then adhesive plaister spread on linen or leather – this should be applied transversely across the incision, drawing the edges together – these should be applied a little apart, so as to favour the escape of bloody matter or pus – for if it be confined, it may collect in the cellular membrane, & form an abscess – This separation of the strips is more particularly requisite, when an artery or vein has been divided & taken up – After the sides of the wound are drawn together & secured, a portion of lint suited to the size of the wound, spread with any kind of cerate may be applied – on the top of which a third layer of linen is to be placed & the whole secured in order by a bandage —— These dressings should not be removed for 48 hours – in which time I have seen an incision completely unite —— Inflammation is only now to be

feared

feared if much be present, Bloodletting according to the symptoms must be used – low diet & Rest – purges may be used occasionally to prevent costiveness – if no inflammation be present, & the patient be weak, he may take some animal food – as some inflammation is necessary to aid its union – this practice is recommendable, except in wounds of glass, which should be left to suppurate – since parts of the glass may remain in the wound —

Even transverse incisions may be remedied by adhesive plaister, which will be generally found sufficient, & the limb placed so as to cause no restraint in bringing the edges together – this should be always prefered to sticking it with a needle, & that for these reasons — 1st – It gives less pain — 2nd – Every stich of the needle, adds a new punctured wound to the injury — & 3rd – the thread mostly occasions suppuration by the irritation which it produces – But there are some parts where sutures must be used – as in the Eyelids, nose, ears, scrotum, & in particular affections of the scalp – or where the parts are so flexible as not to admit of other treatment – we should be careful however in injuries of the scalp, not to draw the divided edges too hard for the purpose of bringing them into contact, lest by overstretching the flap, we stop the circulation & so produce mortification of the injured part. —

Punctured Wounds

– A punctured wound is a seperation of the soft solids, communicating by a small opening externally – the irritation here is greater than in incised wounds – In cases of punctured wounds we

we should be very cautious in using a probe for the purpose of investigating the depth of the wound — since by that means we irritate the part, & destroy any adhesion that may have taken place, & thereby prevent or retard the cure — It is better to make an incision to examine for any extraneous substance near the surface, than to use probes or forceps for that purpose — This should be done soon after the accident happens, or else deferred until suppuration has taken place — When matter shall have collected in a punctured wound, & when the extraneous body by which the injury was made, is not discharged, it then becomes very necessary to dilate it — or when large vessels are wounded, & cannot be taken up without — again it becomes necessary to dilate them, when the constitution suffers from them — In July 1795, a lad in getting over a fence, fell upon a nail, which ran into the flesh below the knee, about an inch upward toward the joint — febrile symptoms came on — he complained of sickness in the Epigastric region — pain in the neck & head — his pulse was frequent & quick — The wound was opened & the pain was translated to the wounded part immediately — & except here he felt no pain at all in any part of his body — the wound was dressed with common poultices, & healed very kindly — I knew a lady who was thrown into convulsions, by puncturing her finger with a needle — these continued for the space of an hour & a half — the puncture was then dilated, & the spasms went off without returning —

when

+ a bread & milk poultice is the best application —

* apply a Blister —

+ From their perfections of the evil for Number Hitherto of Inspection
in the Blood of Fidint & Nauseous, in formation of the Number
taught —

When Punctures or Contusions happen during warm weather, they should not be healed up too soon, but suppuration of the part should be promoted + Cordial diet & wine should be given - by which means we frequently prevent Tetanus.

Lacerated wounds are made with blunt instruments, which kill the flesh when it is seperated - Anodynes combined with a small portion of Emetic are useful, when they act as sudorifics; for the purpose of composing the patient - They should be given, & bread milk poultices applied, until the dead parts come away - If inflammation accompanied with fever supervene, it must be remedied by the Antiphlogistic regimen - If symptoms of mortification come on + - ease the pain with opiates, & prescribe porter, wine, bark &c - When by these means a contused wound is changed into a granulating sore, it may be dressed as a common incised wound ---

Penetrating wounds are such as extend into the cavity of the abdomen - thorax &c - When wounds happen in the thorax they are attended with great danger, by producing inflammation of the cavity - If the lung be wounded, or the puncture be made through the Pleura - Air gets into the cavity, the lung contracts, & the patient performs respiration with great difficulty - If the Lung be wounded, the patient coughs up blood - Sometimes the vessels are injured so that we have to take them up - If one of the

intercostal

[x] makeing a hole both at its entrance & exit ~

[F] Air passes into the cavity of the thorax thro' the external wound in inspiration
[I] not expiration as some have thought ~

[illegible] proved by the experiment of Dr Physick made in the year 1790
on a kitten. he made a puncture into the thorax & by a blow pipe inflated
one lid immediately closed up the wound & the thorax [illegible] to the air
[illegible] thinking that the kitten [illegible] & found it could not die
[illegible] in the presence of Dr Powell they found the side of the thorax [illegible]
[illegible] no marks of inflammation —

I think it may be occasioned by the drying of the surface by its coming
in contact with air which may become a source of irritation by a de-
privation of habitus or moisture ~

Intercostal arteries be divided, so that the Tenaculum cannot be used for taking it up, pass a ligature round the rib by means of a needle & secure it in that manner — this I have never performed — Shot produce the worst wounds, because they always tear the soft parts, & occasion a loss of substance + — wounds in the thorax occasioned by balls, are very distressing — they generally kill the part where they enter, making it necessary that the part should suppurate & slough off before the orrifice can heal — the patient is afflicted with anxiety & difficulty of breathing ‡ — Blood letting, rest, Laudanum &c — are necessary — the dressings are apt to be drawn into the cavity of the thorax in breathing — this had very nearly happened under my care — Care therefore should be taken to dress such wounds with adhesive plaister — or bread & milk poultice, confined in a gauze bag — the edges of the wound when not killed, should be kept together to unite by the first intention if possible — When the sides of these wounds are approximated the cavity is rendered complete — & a cure is effected without inflammation — No bad effects are to be dreaded from the air, that may remain in the cavity + — this never produces inflammation as is proved by cases of Emphysema — the inflammation when it supervenes, arises Mr. Hunter says, from the stimulus of Imperfection * — In 1800 — Two officers playing cards together a dispute arose between them; whereupon one stabbed the other with a dirk, just above the right pap — the air had admittance into the cavity of the chest — when I saw him his pulse was small & irregular, his extremities were cold — his countenance lived: no symptom of inflammation of the

pleura

+ no inflammation took place here in consequence of the admission of air —

* If it be a contused wound, poultices must be applied to induce a suppuration & then the sides should be approximated by slips of adhesive plaister —

pleura appeared — I applied adhesive plaster over the wound, & on the third day it had united — by the 8th day he was able to walk out in the street —

Having spoken of wounds in general, I shall now go on to treat of particular ones — & first of **Wounds of the Face** — as there are many cases, in the treatment of which sutures are always necessary — so there are likewise cases in which they should never be used. — The ancient surgeons used sutures in almost all cases of wounds — but in wounds of the Face sutures should not be used, as it always occasions deformity by the marks of the stiches remaining after the wound has healed — I knew a lady one side of whose face was very handsome, & the other very much deformed, in consequence of this mode of treatment —

In incised wounds of the Eyelids, unless the tarsus be divided, adhesive plaster will generally be found sufficient; when it is necessary to employ suture, we should be extremely careful not to wound the adnata; the stich should only go through the skin of the eyelid — because if the thread were to come in contact with the globe of the eye, it would continually irritate it, & bring on inflammation of the whole eye — I have seen a case where a shot entered just at the edge of the sclerotica, & punctured the Chrystaline lens — I have seen another case where the eye of a young lady was punctured by a piece of glass, from the breaking of a bottle in her hand — From whatever cause the eye may be wounded, we

should

+ and his hands should be tied to prevent him rubbing his eyes –

+ or it is sometimes used by a salivation –

* In children who when falling mostly have the tongue out of the mouth –

° when the ligatures may be removed –

should endeavour to remove all irritating substances, & by well timed bleeding, purging, low diet, blisters, & ablutions &c — with the use of collyrium we may prevent suppuration — The best Collyrium is the infusion of the pith of Sassafras in cold water — milk & water &c — & the patient should be kept in a dark room† — If blindness follows, it is sometimes in the Surgeons power to remedy it by an operation‡ — of this I shall say more hereafter — a case from Coxe's Museum —

Generally in wounds of the Lip attended with no loss of substance, it will be sufficient to bring the divided edges together with adhesive plaister; but if a portion of the lip be lost, it is necessary to use suture —

In wounds of the Tongue, which we sometimes find to occur, from people biting or receiving a blow on the chin, when the tongue is protruded,‡ it is necessary to use the interrupted suture — As it is difficult to get at a wound of the tongue, the patient shutting his mouth from pain, it is requisite to place a soft stick between the teeth to prevent being bitten — The tongue if necessary may be drawn out by a hook — Wounds of the tongue usually heal in about 6 days* — The patient should be fed with spoon victuals — In wounds of the Ears a simple suture is sufficient. —

Wounds of the Throat

mostly occur from persons intending to commit suicide — when the skin only is divided, there is no difficulty in curing it — but sometimes the Trachea & oesophagus is divided & the large vessels exposed; the first thing then to be done, is to attend to the hemorrhage, & secure all the bleeding vessels either Arteries or Veins,

even

+ Take care not to tie up the pervagum with the carotids —

¤ Dr. Physic thinks that sutures ought not to be used at all in wounds of the throat — & that the head should be inclined forwards by means of pillows & a night cap with strings fastened under the arms —

* Be careful —

* It has been doubted whether the oesophagus can be cut without wounding the carotids — Dr. Physic says it can be done — & further, in cer= =tain cases of Phy[illegible] the account of a Card taken from Dr. Dudley's Com= =mentary — The trachea & oesophagus both united kindly, after inflammation had terminated & the patient got 2 drams & vomiting taking

even if the Carotids be divided they may be secured by a ligature ± since the circulation to the head may go on thro' the vertebral arteries — When the hamorrhage is considerably secured the sides of the wound may be approximated; this can mostly be done, if small, by adhesive plaster alone — but if this be not sufficient we may use sutures, having care to secure the skin & cellular membrane only: for if a stitch were taken in the throat it would create vomiting — & if a stitch were taken in the side of the Trachea, it would occasion a continual ~~vomiting~~ coughing ± — When this is done the head should be inclined forward, to favour the union of the divided edges, & secured in that position by a bandage — I believe in every case it would be most proper not to draw the divided edges too close, so that the blood & matter if collected may be discharged — all the vessels both arteries & veins should be secured tho' apparently done bleeding; for if any blood continue to ooze from their orifices, it may escape into the wind pipe & cause suffocation — In wounds of the throat, a great deal of inconvenience results from swallowing; as every attempt must seperate the sides of the wound; to remedy this it has been advised to introduce a pipe thro' the nostril into the throat for the purpose of passing food into the stomach; but it causes too much irritation to be practicable; keeping the patient continually coughing or sneezing — he should be supported by nourishing suppositories frequently administered — If coughing occur it should be relieved by demulcents and Opium ±

In **Wounds of the Abdomen**, if they be superficial, the treatment will not be different from

Head cut side

+ Sometimes when they do not penetrate through the parietes, an abscess is formed in the tendinous sheaths of the muscles; there is no pointing, but a fluctuation may be felt, an early opening should be made to prevent its making its way into the cavity of the abdomen; a blister is advisable in these cases —

+ Do not tie the intestines, until they have all been passed through the wound as far as may be necessary.

‡ which will certainly produce peritoneal inflammation & probably death — In wounds of the abdomen it is of importance to enquire what kind of aliment or drink the patient has last taken into the stomach — Dr. Physic mentioned a case to prove this, of a man who was stabbed that had just been taking porter, it escaped from the stomach & produced peritoneal inflammation of which he died, while the wound in the stomach had united by the first intention —

from that of any other part of the body — but if the wound be thro' the parietes of the abdomen there will be danger of peritoneal inflammation — To prevent this it will always be desirable to unite them by the first intention —

If the Intestines protrude, after cleansing them they should be returned, & the wound closed by the interrupted suture — In the suture of the abdomen, two needles should be used with each ligature, & the stiches should be commenced internally at the distance of about 3/4 of an inch from the divided edges, & the stiches be about 1/2 an inch apart — The patient should be kept to a rigorous diet, & the bowels freely opened — When union shall have taken place between the divided edges, the stiches may be removed, & adhesive plaster applied — If any of the viscera should be wounded, they should be secured, before we stich up the wounds of the parietes — The chief danger arising from wounds of any of the hollow viscera, is from the escape of their contents into the cavity of the abdomen — Generally in wounds of the abdomen, a piece of Omentum protrudes at the orifice — & if the intestines be wounded faeces frequently pass out, & the patient will have bloody stools — If the Stomach be wounded, food will be discharged — Vomiting of blood ensues, cold sweats, tendency to faint — & when fatal the patient generally dies about the third day — after remaining in a state of Coma until death — When the intestines are wounded, they may be sticked — four will be sufficient — the knot may be tied so as to be on the inside of the intestine — when this is done cut of the ends of the thread, & return the intestine — the thread will get into the cavity of the

intestine

+ But I believe the best plan will be, to let the ligature come out at the external wound —
For 1811, the D. imagines that the above observations will apply to those cases after Hernia.

+ but this may be obviated by taking more pains with the sutures —

Venesection should not be resorted to, untill inflammatory symptoms appear, or the patient labouring under a phlogistic diathesis —

∂ That portion of the omentum or mesentery which is wounded should be brought near the external wound, to prevent the ligature from irritating the peritoneum & producing inflammation —

This is really necessary when one edge of the divided intestine protrudes at the wound — Also when a large quantity of the intestines protrudes thro' a small opening —

intestine, & pass off by stool — It was formerly the custom to bring the ends of the ligature out of the wound, of the abdomen in every case where the intestines were stiched, until Drs. Cooper & Dr. Thos. Smith proved, that the remaining part, if cut close, & left in the belly will get into the cavity of the intestines, & pass off by stool +

Transverse incisions of the intestines are easier healed, than longitudinal ones, for sticking a longitudinal incision, lessens so much the diameter of the intestine, that the feces lodge there + — If the longitudinal wound be not too extensive, that portion of the intestine may be removed, & the transverse ends closed together — This practice has been tried & succeeded where three inches were cut out — * The patient should be fed sparingly, so as not to distend the intestine, his food should be altogether spoon victuals — Laudanum should be given to ally the pain & keep the intestines still, so that their peristaltic motion may not prevent the union of the wound — Glysters should not be administered, else probably a part may escape by the wound — When the Omentum or Mesentery is wounded, generally some hamorrhage ensues; the bleeding vessels should be taken up, & secured by a ligature, but the ends of the thread must be left out of the wound * Sometimes the bowels are protruded, I should have said injured, & not protruded — in these cases it has been a question of dispute, whether the wound in the parietes should be dilated, to search for the injury or not — I believe it is right to search for them, by enlarging in a degree the wound, if it be not large enough already * — but the wound should not be enlarged freely, otherwise, we shall endanger

great

+ nor should the intestine be sought for much —

‡ A negro received the contents of a pistol into his abdomen just above the crista of the Ilium, the whole load went into the intestinum rectum for the shot came away by stool, he complained of pain in his belly, he was bled & took an opiate, to keep his bowells easy — he was by these means perfectly cured in three weeks; but gun shot wounds are not apt to terminate so favourably; the fæces sometimes get into the cavity of the abdomen — Dr. Physick mentioned the case of a girl where a worm got thro' the wound in the intestine —

+ They are known by a heaviness felt in the right Hypochondrium —

* The pulse is weak & low —

‡ this is of a dark colour — & is what occasions the swelling in the abdomen — that is the effusion of blood —

□ keep perfectly still & quiet — Blisters to prevent peritoneal inflammation —

great inflammation + — There are cases in which the intestines have been wounded & recovered where nothing has been done ‡ — In such cases where the intestine is wounded, it commonly unites to the peritoneum round the wound of the parietes, by the adhesive inflammation — It would seem that when the intestines are wounded, they stop their peristaltic motion, so as not to prevent their adhesion — When the bowels are injured, & cannot be found, if the orifice be large enough for the bowels to protrude it should be stitched up — If inflammation supervene, copious bleeding, purging, low diet &c are necessary — & sometimes tho' the circulation seem weak, the inflammation is great —

In wounds of the of the Liver + — the right lobe being wounded, the pain will be in the right shoulder + — if the left lobe, the pain will be felt in the left shoulder — It is of a dull, heavy kind * — If the wound be small, it will in general heal soon: but if the wound be large, there is generally a fatal hemorrhage ‡ — Often inflammation of the peritoneum is occasioned by the distention of blood in the abdomen + — In these cases little can be done — the patient should use evacuants, & live on barley water & the like □ —

If the Gall Bladder be wounded, its contents will escape into the cavity of the belly — causing by its stimulus violent inflammation, & always proves fatal — I believe the same happens from wounds of the Pancreatic Duct —

When the Kidneys are wounded, the patient will pass bloody urine, & if it es-

cape

+These demand our immediate & serious attention –

*& a splint –

* that is dropped to the bottom –

escape into the cavity of the abdomen it causes death — Tho the back part of the kidneys may be wounded, & the wound heal, without any great inconvenience —

Wounds of the Bladder mostly prove fatal, when they communicate with the cavity of the peritoneum — but when wounded below that cavity, are attended with no bad consequences —

In wounds of the Joints, if we are not cautious to guard against it, inflammation & suppuration will occur — they should be treated with adhesive plaister — Mr. Hey says stiches are not necessary — if you use them be cautious not to get into the joint, or else the irritation of the thread, will cause inflammation of the whole joint —

I saw a case where a turner cut his knee, with a chissel — the wound was about an inch long — & was oblique, passing thro' the capsular ligament — it was closed by adhesive plaister — a long splint was applied, so as to reach from the Ischium to the ankle, to keep the leg extended — No unpleasant symptom came on, & the patient in about a week was well —

I have seen wounds of the joint where the bones have been injured, & yet they got well, by this mode of treatment — Mr. Home says we should always try to effect union by the first intention — The bad effects of an opposite mode of treatment, when the sides are prevented from coming together by lint, may be seen in the following case — a patient who had received a wound in the knee joint was treated in this manner* — & in consequence afflicted with fever, delirium, twitching, convulsions &c. so that he could

not

an extreme inflammation of the joint took place - the secretion of synovia was much increased & this at last changing into pus formed abscesses both above & below the joint -

Q under

Q whatever the symptoms

A the matter of the chamber

Q How would you proceed to cure

A Because the pus is in a low place &c

Q Is the chamber broken

A

Q

A Yes & the pus flows towards

Q What is the cause

A

Q What is the treatment

A vent the pus upwards & fix a drain

Q Is the popular cavity involved

A

Q What is the cause

A

Q What are the symptoms

A

Q What is the treatment - puncture & drain

Q How long would you continue the drain

A 3 or 4 weeks

not sleep, unless two persons sat by him, & held the limb — Also abscesses formed under the capsular ligament, both above & below the joint. Every time the dressings were taken away, a considerable quantity of matter, together with the synovia of the joint was discharged, & a great inflammation of the joint had taken place — This at first was a clear incised wound — after this an oedema came on, which was cured by means of mercurial cathartics — This case however, got well after four months — Besides the common dressings, in wounds of the joints we use a Splint for the purpose of keeping the limb extended — this prevents the usual symptoms that occur, without this precaution — such as delerium, twitchings &c — together with inflammation & swelling of the divided surfaces, caused by the edges rubbing against each other — It should be applied so as to prevent all motion of the joint, as only a very slight motion of it does much injury — The situation of the limb where we expect anchylosis, or where we wish it to take place, will vary according to the limb affected — If it be the elbow, the arm should be kept moderately flexed, for if the union of the bones take place when the arm is straight the patient will have no use of the limb — but if the elbow be flexed, when union takes place, the patient can perform many useful motions — But if the knee joint is affected, & the limb be flexed, when union takes place, the patient will not be able to walk — so that the leg in affections of the knee joint, should always be kept extended, since we can make most use of it in that position — The limb being brought into the right position, the wound should be dressed with adhesive plaister, & secured by a splint & roller — These two last counteract the tendency in the muscles to contraction & prevent the irritation of the sides of the wound —

+ Delirium
‡ especially if it happen in warm weather & in persons who use spirituous liquors —

The patient should be bled, & put upon an antiphlogistic regimen, purged, & if necessary a blister may be applied — Wounds often heal easily under this treatment, tho' their first appearance be very unfavourable — The cartilages covering the ends of the bones forming joints, are sometimes cut thro', & yet unite by the first intention — From observation I have been led to conclude, that inflammation of joints does not so soon take place, as inflammation from the same cause would in any other part of the body — The irritation causing only an increase of the former action, & a much greater secretion of synovia — In large lacerated wounds of the joints, such as Surgeons call compound luxations, where they must suppurate, it has been disputed whether the limb should be amputated or not — When the ends of the bones have been injured, it has been found that mortification frequently takes place, from the violence of the inflammation* — & if the patient escape this by being much reduced he is in danger of tetanus — & if he escape tetanus suppuration & hectic fever, and consequent amputation — At best the limb must anchylose, & be rendered stiff ever afterwards — Or if anchylosis be prevented the cartilages will be removed, & nothing but a ligament will connect the bones together, rendering the limb perfectly useless — if attempts be made to save it, the best application is bread & milk poultice — There is more danger of the symptoms above spoken of occurring in warm weather, & in persons accustomed to drink spirituous liquors ~~& in old thin~~ young — Partial stiffness of the joint is owing to adhesions forming between the capsular ligament & end of the bone — Before a joint can become

anchylosed

Granulating, cartilage, then bone – 3 stages which are much noticed in quoting from Dr. Physick –

+ Mr. Gooch & Mr. Park of Liverpool –

+ unless the bone is carious –

° otherwise the granulations that have formed will be destroyed by the edges rubbing together –

*+ a number of –

anchylosed, the cartilage must be removed, as they never unite together — I shall shew you by what means this is effected — It never inflames, ~~suppurates~~, granulates, or exfoliates, becomes carious, nor sloughs off — but is removed by the absorbents — Granulations are then thrown out from each end of the bone, & uniting together render the joint anchylosed, forming but one bone — To favour this process we should, we should keep the joint still, for if the uniting parts be torn asunder they do not readily unite afterwards — † Authors, tho' without being able to assign a reason for it, have advised to saw of the ends of the bones, this removes the cartilages out of the way, without losing time for them to be removed by absorption — But this is a bad practice, because it occasions great pain, & is performed with difficulty, & great danger of wounding the surrounding soft parts — I believe that scraping off the cartilage from the ends of the bones with a knife, when the constitution cannot bear the irritation long enough for the absorbents to remove them, will answer very well, & often better ‡ — A splint should always be used to keep the limb perfectly at rest° —

Of Wounds of the Nerves & Tendons —

When a nerve is partially divided, it is said to produce great pain, convulsive twitchings &c * — & this was said to be the case, when these symptoms followed Phlebotomy — but it cannot be dependent on this, for no surgical operation can be performed in any part of the body without wounding a number of small branches & yet these symptoms very seldom happen — The inflammation & swelling of the arm sometimes occuring after Phlebotomy I shall account for in a different manner — I mention this to

guard

+ & bandages — The best application to the part itself is a piece of adhesive plaister — Care should be taken that the skin does not get between the divided edges of the tendon, for this purpose a suture is sometimes necessary —

guard you against a very terrible operation proposed by Mr. Bell, which is to make a complete division of the soft parts at that place down to the bone — When a weakness is felt in the arm immediately after bleeding — if the operation be attended with pain — & if it increase & become worse for two or three days, instead of better; then we may suppose a nerve or tendon to be injured, & an incision may be carried a little deeper & divide the nerve completely — but I am happy to say such cases do not often occur — Perhaps the best symptom of a wounded nerve is a numbness & a partial paralysis of the arm below, to which the nerve goes — these symptoms occur immediately —

Wounds of the Tendons —

are no more than wounds of other parts, unless it be punctures of the fascia — these are sometimes followed by inflammation of the parts underneath them, which are bound down & compressed — fever & suppuration ensue — When any inflammation is attended upon wounds of the fascia of the thigh; of the scalp &c — a blister should be applied over the affected part, & if this be not sufficient to relieve the pain & inflammation, swelling & matter is collected underneath, a free incision should be made, to give it a free discharge — Sometimes the Tendons are cut quite through — they require no different treatment from other wounds — the limb should be secured in the best position, & the edges of the wound brought together with adhesive plaister. — When the Tendo Achilles is wounded, which often happens, the toes should be extended — this may be done in two ways — First — By fastening a roller to the foot, carrying it over the heal up the back part of the leg & securing it to the thigh — Or — secondly — By a piece of pasteboard placed on

the

These are seldom attended with bad consequences; the veins most frequently wounded are those of the arm, by bleeding; when pain & numbness comes on several days after the operation, we may rest assured, it arises from neither a nerve or Tendon, for in that case the pain would occur immediately, but on the contrary it arises from an inflammation of the vein, this I believe to be frequently the case, when it is attributed to the nerves or Tendons; that the veins are frequently inflamed, we are assured from dissection, where inflammation was observed, but no disease of the vein at the time suspected — When a vein does not unite by the 1st Intention, inflammation is apt to take place & matter is formed sometimes; there are several small abscesses formed within the vein, & generally in its course towards the heart — in this case the sides of the vein at the abscess generally adhere & obliterate the cavity, so as for ever after, to prevent bloodletting in that vein — The inflammation sometimes spreads up & down the arm in the direction of the vein, resembling Erysipelas — all the symptoms may be generally removed by the timely application of a Blister over the inflamed surface; & even when stiffness is occasioned from the inflammation a Blister frequently proves successful — The mode of stopping blood in a horses neck after bleeding, by the twisted suture is very improper, because the irritation occasioned by the pin piercing the cavity or coats of the vein, is apt to occasion an abscess; care should therefore be taken in apply this suture only to penetrate thro' the skin — Inflammation is frequently spread from a wound to the neighbouring parts, by the veins — In order to prevent the inflammation &c from supervening in the vein, we should after V. S. be careful to bring the lips of the wound, into immediate contact; this can be most effectually done by pressing the skin on each side towards the wound so as to press it into furrows on each side — while in this situation apply a compress (in preference to a plaster as some directs) & pass a bandage round the arm, in the form of the figure 8, so that the cross may be immediately on the orifice of the vein; should the vein be inflamed, our first intention should be to apply a compress, to occasion its sides to unite, & prevent the formation of matter; but when it is formed we should then give it an exit — It was formerly the practice in cases of this kind, to bleed copiously & apply, cold, astringents, and emollient poultices to the parts, but I am of opinion a blister is preferable, in this case; previous to its application, it is advisable to cover the orifice with a small piece of sticking plaster —

the anterior part of the leg, & secured by a roller; care should be taken however, in all cases of wounds occurring just above the heel, not to make too great extension, but only just sufficient to make the divided edges come into contact; for by extending the toes too much, we throw the skin into wrinkles, & bring them into contact with the divided surfaces, & prevent their union — This sometimes will happen from the contraction of the part, even with a moderate extension of the foot, turning the edges of the wound in so that it cannot heal — This we sometimes find, after dressing it for a week or two, without any appearance of its healing — The skin should be turned out & kept so by the intercepted suture — When the Tendo Achilles has been divided, the foot should not be used for six weeks —

+Wounds of the Veins — The inflammation & swelling consequent on Phlebotomy, is treated of by Mr. Hunter in a paper upon inflammation of the veins, published in the first volume of the Medical & Philosophical Transactions; which I shall read to you — When the symptoms before mentioned occured, it was supposed that a nerve or tendon was wounded, & that the bleeder was a bad operator; or that the constitution was bad; but the inflammation is owing to something very different — viz — By the orifice in the vein not uniting by the first intention — It has been proposed by Mr. Bell under these circumstances to divide the soft parts above the wound, by a transverse incision, to a considerable depth — so that the nerves might be divided — But this should never be done; tho' it alleviates the pain; & patients have got well under such treatment —

The veins are commonly at the elbow – because they are superficial & enough blood will flow from that situation

as Veins are very cephalic & median – Basilic

any of these veins when properly opened will spout out

a great quantity of blood – opening the cephalic is safer

& easier sometimes – the median vein – the Basilic

is not so safe because the artery is sometimes

on side of it – the ~~[illegible]~~ before the operator – to avoid

this compress the vein not so high as to stop the

circulation – the artery – to avoid a compress – tie the

ligature with high when the tender is inclined that it may

compress the artery well

Great care should be taken clean the arm – fast reclining

the bandage – then apply

It should not be done, because it subjects the patient to much greater danger, & the alleviation of pain is owing only to the taking off the inflammatory tension of the part by dividing it — Blistering is generally effectual in reducing the inflammation and curing the patient —— **Sutures** — I promised in my last lecture, to give you a description of sutures, at our next — I shall therefore proceed with that subject —— The kinds of sutures which I prefer are the **Interrupted** and **Twisted** — and first of the interrupted — They are nothing more than a simple stich, made by means of a needle passed from one side of the incision to the other, thro' the edges of the wound — this done draw the edge of the incision into contact, & tie a knot; this however should not be directly over the edges, but a little to one side — & the suture is completed —— **Twisted Sutures** are effected by means of a silver wire, encased in a steel point, which can be taken off at pleasure — This is to be passed thro' the edges of the wound, from one side to the other; which being done, draw off the steel case, that it may not hurt the patient by its sharp point, & the wire remains behind thro' the edges of the wound — then take a ligature, & wind it round the wire, in the shape of a figure 8, always decussating in the centre, & drawing the edges of the wound in close contact — when the wound has united sufficiently to take off the thread, draw the wire out gently, & the thread will come away. —

Gun-shot wounds — These were considered in the early periods, as being a distinct species of

wounds

+ From these theories they were led to apply stimulating remedies, which sometimes occasioned gangrene —

* Gunshot wounds partake of the nature of lacerated & contused wounds, there is generally but little blood effused at first —

+ The surgeon should be aware of this, & when he has reason to suppose that a large vessel is wounded or contused he should be prepared with a Tourniquet, to stop the hæmorrhage at pleasure, if any should take place —

* It might bring on Tetanus —

wounds – The livid colour which ensued, accompanied with a black slough, pain, with vesication & gangrene, induced them to suppose the effect must have resulted from, either poison, or from the part being burnt &c – because the nature of fire & poisons were little known + – But these wounds are now considered, as so many varieties of contused wounds * – If the body occasioning the wound be of a roundish figure, the wound will undoubtedly be a contused one – When the ball goes with great velocity, it occasions the death of the divided parts – The greater the velocity of the ball, the greater is the injury done to the part, for, sometimes the ball passes thro' a part, & that surface at which it passes out, always heals first, & with less slough – sometimes uniting by the first intention, without producing any slough – The dead parts formed into a crust or slough should be extracted with great care to prevent a haemorrhage – We should therefore watch when it is about to slough off; which it generally does about the 10th day – Some perhaps might think it necessary to extract the slough, when it became somewhat loose, but all violence should be avoided, if the vessels divided be large, for fear of haemorrhage, which frequently occurs when the parts slough in cases of Gunshot wounds, where no haemorrhagy had taken place from the same vessels at the happening of the accident, owing to the vessels being killed at the time by the contusion, tho' not divided; which portion of them comes away, with the other dead matter, when the part slough + – It has been advised to bleed freely in all recent cases of Gunshot wounds; but I would not recommend bloodletting at first in all cases – * If the ball move with a small degree of velocity, it does not destroy the divided parts, & therefore the cases heal sooner,

when

+ It has been supposed that the percussion of the air has some effect on wounds without the ball touching the part – but this is erroneous –

+ & evacuants prescribed liberally –

+ a puncture in the cranium will not answer as has been advised –

when the force of the ball is weak, than those in which the ball passes with a greater degree of velocity — because the parts are only torn† — Gun shot wounds require the same treatment as other contused or lacerated wounds — When the ball is lodged on the Trachea the patient performs respiration with difficulty; in such cases the ball should be immediately extracted, to preserve the life of the patient —

Gunshot wounds of the scalp are treated in the same manner generally, as other wounds of that part — It is necessary in some affections of the scalp, to lay it open by an incision, for the purpose of examining the state of the cranium — When the cranium is laid bare by a ball, the exposed part if violently contused, should be removed*, as the contusion might occasion Inflammation† an Abscess within the cranium‡ — A Gunsmith who had become weary of his life, concluded to put an end to his existence, while his fellow workmen were gone to dinner — In order to accomplish his design, he loaded a pistol, & applied it to the back part of his ear, supposing that the contents would have gone thro' his head — In this however he was deceived, the contents did not enter his skull, but took off his ear all the integuments, so as to expose the bone — He was able to walk to the Hospital afterwards, & to relate the whole circumstance — He complained of great pain in the head — trepanning was delayed too long — he was seized with delirium, inflammation of the Dura mater came on, & he died — Some Surgeons advise the Trepkine in all cases of Gun shot wounds affecting the cranium — but I would

only

+ Dilitation should scarcely ever be practised to extract the ball except the ball is lodged in the Trachea & impedes respiration & on the Head, then it may be necessary to examine & see the state of the scull – & if we have reason to believe that the formation of matter has taken place in the scull we should give Vent – when the ball is lodged in the brain we should use the fingers instead of a probe – it is sometimes necessary to enlarge the wound to secure a bleeding vessel –

+ as Wiseman has directed –

+ till Houghing & granulations take place –

* the mind much agitated –

only recommend it in those instances where symptoms of inflammation of the Dura matter supervene — When the more fleshy parts are wounded, if the ball be deeply seated, & the orrifice sufficiently large for the introduction of the finger, it is to be preferred to a probe, for discovering the situation of the ball + — because 1st — The probe would not convey that accurate sensation which is derived from the finger as to the situation of the ball, & the state of the parts — 2nd — The probe would be much more liable to irritate & injure the part than the finger — If the wound be superficial the ball may be easily cut out, & as the patient always feels easier after, it should be done — but if deeply seated we should not dilate the parts, nor use probes + — indeed the oblique course which the ball frequently takes, renders it impossible to dilate the wound — long probes are improper for the reasons just mentioned — I knew a case of a wound in the Ankle, where the ball had made its escape up the leg, & was found lodged above the knee, the skin having prevented its escape — — Likewise a case of a wound in the chest & the ball was found half way round the body — — Linseed or Bread & Milk poultices should be applied to the part +, & all stimulating substances carefully avoided — the treatment will vary according to circumstances — Sometimes the patient is very much distressed & weak * — these should be relieved by anodynes — If the extremeties are cold, Bark, wine &c may be used — Synapisms to them are sometimes useful — We commonly bleed in cases of Gun Shot wounds, but

not

+ by bleeding & evacuants — Sudorifics & anodynes are proper —

+ But when Tetanus has actually come on, we should attempt removing it, by applying a Blister over the wound, & by that means exciting inflammation in it — some have advised amputation, when it can be practised; but this does not often succeed in the removal of Tetanus — I once saw a case of Tetanus, arise from a wound of the finger; the finger was amputated but the Tetanus still continued —

+ over the breast — cupping & blisters might be substituted for general bleeding especially in warm weather —

+ They are attended with great depression & languor of the circulation — are more dangerous, than almost any other viscus, on account of its vascularity & the consequent effusion of blood —

not always, as too speedy a removal of inflammation, sometimes induces Tetanus — we should not bleed indiscriminately in all cases, but wait till fever & inflammation come on; & if they are proportionate to the wound they are salutary — for both fever & inflammation in Gunshot wounds are necessary to health — I have seen a case where the inflammation was done away altogether by copious bleeding; the consequence was that Tetanus ensued, & the patient died — When suppuration has taken place, we may use the Bark with an invigorating diet — if neither fever nor inflammation supervene, we may continue them; but if these occur we must have recourse to the antiphlogistic regimen —

In Gunshot wounds we must treat them according to the nature of the case — or injury done — If the bone be fractured, we must treat it like a compound fracture of that part from any other cause — It is necessary in all wounds of the Thorax to bleed, as they are always accompanied with more or less inflammation & fever — I have taken 186 ounces in 14 days & the patient recovered — Blisters are sometimes of service — If the spine be wounded, it occasions a paralysis of all the parts which receive their nerves from below that injury — If it be in the cervical vertebrae above the phrenic nerve, it occasions a paralysis of the diaphram, & the patient dies immediately — If it occur below that nerve, the patient may have life for several days — but most commonly dies in about four or five days —

Wounds of the Abdomen are dangerous according to the viscera injured — In wounds of the Liver I have

recov

+The only thing to be done here, is to keep the patient at rest + use a low diet —

recommend large bleeding — If the Gall Bladder be wounded, the patient is afflicted with great pain & depression — Bile makes its escape into the cavity of the abdomen, violent inflammation ensues, & the patient dies — Wounds of the Stomach are mostly fatal — the patient is afflicted with depression, a disagreeable sensation, nausea & vomiting of blood + — A person who had been drinking a hearty draught of Porter, received a wound in the stomach; it was situated equally distant from the sternum & Ribs — the porter in part came out at the orifice, & pat was effused into the belly — his abdomen was puffed up in the Hypogastric region, the patient complained of great pain, & finally died — The edges of the wound in the stomach were united by the first intention, & no sign of inflammation of the stomach appeared — & I believe he would have survived the injury done to the stomach & other parts, if inflammation of the Peritoneum had not taken place, in consequence of the contents of the stomach being in part effused into its cavity — —

Wounds of the Bladder prove frequently fatal: I believe not owing to any peculiar delicacy of that organ, but to the Urine passing into the cavity of the Peritoneum & causing inflammation of that membrane; for we often see the neck of the bladder divide without any bad consequences — In all cases Rest is a necessary part of the cure; we should keep the patient still, & his food should be mild & opening — blisters should be applied to the abdomen; also fomenting

poultices

+ a bullet has passed under the patella & the patient recovered —

+ an ulcer is a purulent solution of continuity —

+ in consequence of wounds —

poultices have been applied to the belly with success — The wound should be joined together by the interrupted suture, when situated in the abdomen —

When a bullet passes thro' a joint, it is very apt to injure the ends of the bones, composing the joint — When this is the case there is a great deal of danger — If hectic fever supervene, amputation becomes necessary — but lacerated wounds sometimes partake of the nature of incised wounds, & sometimes unite by the first intention† — When amputation, is necessary, I would recommend it to be done immediately, by this means hectic fever will be prevented, & we obviate inflammation, delirium, frequent pulse, cold sweats &c — And another reason is, because the patient is more willing to submit to the operation if performed immediately. —— or wait until suppuration has taken place —

On Ulcers — I have said

sufficient in my former lectures, to give an idea of the definition of ulcers* — They are a very frequent occurrence in the practice of surgery† — It behoves those who attend at Hospitals to pay the greatest attention to the appearance & best method of cure of Ulcers — since a knowledge of their appearances & treatment constitutes a considerable part of our practice —— There are two methods of cure — viz — 1st By nature — & 2nd By the assistance of art — as to the causes of ulcers; they are of very little or no importance to the Surgeon — The manner of

treatment

+ which easily seperates from them —

+ & unite by the first intention —

+ The granulations sometimes arise above the level of the surrounding parts, & then it is changed to the Fungous ulcer —

treatment, being the only thing necessary to be attended to — To the healing of ulcers there are three impediments — 1st — Whatever injures the constitution — 2nd — Oedema — & 3rd Improper treatment —— I shall begin with an ulcer in a healthy constitution, & shall confine my observations chiefly to ulcers of the legs — In the healing of an ulcer the first process is the detumescence of the edges; next granulations appear raising the surface of the ulcer, to a level with the contiguous parts — The granulations appear first in little red points or spots, & are covered with a coagulable lymph, the pus is secreted of about the consistence of cream — All healthy sores are of a reddish colour, or of a bluish white — By the subsidence of the inflammation, the sides of the sore are brot near together — This power of contraction lessens the surface of the sore; & consequently diminishes the extent of disease — This power of contraction is very fully exemplified in a glandular part, as in the extirpation of a scirrous breast — the skin which is thrown into folds, is in consequence of contraction — I have seen it resembling the mouth of a purse drawn by a drawing string —— The next occurrence after the granulated parts are brot to a level with the old skin, is the production of a new one — the granulations adhere to the edges of the sore, from which is commenced the new skin of a ~~white~~ bluish colour — over which the cuticle is formed at the same time, & the new skin is continued over the sore — This new production in large or old ulcers is not confined to one place alone, but is found in many parts, constituting small detached places or spots on the surface of the sore, like little islands — In the treatment we may

apply

Dr Macleay

+ Sheep up ulceration by irritation —

apply dry lint, to absorb the pus; to keep it from becoming dry; & being irritated, soft dressings, which may be spread with a little cerate or not, should be applied over it, & confined with a roller, the roller should be loosely applied, or else the lint will be too much pressed into the granulations — Under this treatment they will soon heal up, forming a cicatrix — Mr. Bayton has advised to approximate the edges with adhesive plaister — which will very much expedite the cure — If the ulcer happen on any capillary part, it is necessary to shave away the hair, before we apply the adhesive plaister — care should likewise be taken not to put them so as to cover all the surface of the sore; as we should by that means prevent the evacuation of pus — The parts contiguous should be pressed every day, to throw out the collected matter — if the dressings stick, they may be wetted with a little cold water, previous to the time of dressing; by which also the heat & inflammation of the sore are alleviated — The process of granulating is assisted, by drawing the old skin over the sore — This not only lessens the extent of the sore, but likewise supersedes the necessity, for the formation of much new substance, which is always more tender than that originally formed — It sometimes happens that the sides of ulcers will not unite when approximated; they should then be washed with spirits, or we may touch them with a little blue vitriol, lunar caustic or any other escharotic — powdered Rhubarb has been found useful — If these remedies fail, the surface of the sore if small, should be exposed to the air, to dry & form a crust; under which a new skin will often form; & when the crust comes away, the sore

will

will be healed —— It sometimes happens, that the flow of pus is so great, as to prevent the adhesion of the sides, so that they cannot close up; an astringent wash entirely obviates this — for this purpose I used a wash of Vitriolum album, & saccharum saturni in a patient of mine, which immediately stopped it: adhesive inflammation came on, & the patient got well in a few days —

In healthy constitutions, Ulceration seldom demands the aid of a surgeon; the bloodvessels are more firm & vigorous, & capable of carrying on a healthy action — Greater action must necessarily take place in the vessels of the lower parts of the body, than in those of the upper parts, to support the depending column of blood, & to counteract the effects of gravity — hence the vessels of the newly formed granulations being weaker than those originally formed, are unable to support the column of blood, when we walk or stand erect: & this is the reason why in ulcers of the legs, the blood sometimes bursts the vessels — In others tho' the vessels dont give way, yet the parts are too weak to carry on the circulation, & the sore becomes of a livid colour — owing to the stagnation of blood — In this state of weakness the parts may be stimulated with spirits of camphor or even alcohol — If the vessels become varicous, use a roller — When a rupture of the vessels takes place, a bloody serum or mucus is thrown out, which acts as an irritant to the new & tender granulations; inflammation comes on; & the secretion of good pus is diminished; if this discharge is not soon put a stop to, the granulations slough off — the symptoms return, & the sore is enlarged —— The best treatment is a horizontal position — The patient should be confined to his back in bed, & kept

2 The roller & 3 Strips of adhesive plaister

kept perfectly at rest — When this cannot be accomplished, a bandange should be applied; which is the best cure in ulcers of the legs; it prevents an over distention of the vessels —

Bandages are of three kinds — 1st. The laced stocking — 2nd. Strips of leather or of linen spread with adhesive plaister — a laced stocking would answer every purpose, but it is too difficult to obtain — The use of a bandage is, when we wish to prevent the vessels being over stretched by the volume of blood —

The second impediment to the cure of ulcers is oedema — this is preceded by the adhesive inflammation, which forms a basis for the granulations, by uniting the cells of the Tela Cellulaire. The watery part of the blood is thrown out into the cells of the cellular membrane distending the sides of the sore, & putting the vessels upon the stretch, which presses against the granulations & if the distention is long kept up, they will be apt to inflamed slough off — The oedema generally subsides at night, by a horizontal position & the damage done during the day is repaired — In this way it will often continue sometime, the oedema destroying by day what is renewed at night — For the Cure, rest, & a horizontal position are necessary; if these are not sufficient, a roller must be applied — Some authors advise the patient to take a degree of exercise after the application of the bandage — It is certain the parts will sometimes heal speedily under this treatment, but I believe much sooner if the patient be kept in quietude; The situation is a matter of great consequence — The bandage should be applied in the morning, before the patient rises, & consequently before the legs swell —

The

Q which ways is the hair least inclined
A Forward & down ward
Q what other
A downward
Q what are the symptoms
A

Q what is the spirit of the hair
A obliquely outward & downward
Q does it resemble a beard
A yes
Q suppose here would you declare
A [illegible] I cannot certain
Q I suppose you was present when Mary
A reduced herself
Q suppose you could not recollect the hair
A
Q what is not as much [illegible] certain as other
what danger
A pull the sample off

The third impediment, is that method of treatment, which some surgeons call dressing to the bottom, it is by pressing lint or other substances to the bottom of the wound — This is a very hurtful practice; as it must rend the uniting parts, & keep them asunder, & consequently prevent their healing — All such dressings act precisely in the same manner a a pea in an issue — I might next mention different kinds of powders salves, washes &c — but it is unnecessary — all stimulating salves are to be avoided, these either bring on inflammation, or by their acrid qualities act as corrosives — By removing those unnecessary dressings we put the sore in a state of healing — This method of dressing to the bottom, was the ancient way of treating fistula in ano — Whatever impairs the constitution, independent of specific diseases, is an impediment to the cure of Ulcers — The use of spirituous liquors, acts in this manner, as we see ulcers, in people frequently intoxicated, very hard to heal — Cold or Hot weather retards the the cure of Ulcers — Fevers are hurtful; tho' febrile action sometimes cures ulcers — I have seen ulceration as large as the palm of a hand, after resisting other treatment for 6 months, cured by a fever — The simple strength of the constitution, has been supposed to have an effect in the cure of Ulcers — observation proves the truth of this in general, as the parts are able to go thro' their operations better — tho' I think I have seen them heal equally well in both states of constitutions — — I shall speak now of the different kinds of Ulcers under the following heads —

1st — Of the Inflamed Ulcer — These are known by the pain & soreness, swelled edges, & are accompanied with an increase of heat — the pus changes; or instead of pus, they discharge some serum,

which

+ a vegetable diet abstain from spirituous liquors –

≠ by raising the foot of the bed

I recommend to your particular perusal the work of Everard Home on Ulcers –

+ If the surface be small, the whole may be touched at the same time, but if it be large, it will be best, only to apply it to a part at a time – ≠ as red precipitate, alum, oak galls, the latter to be used in infusion, the former in powder, when the galls are used in substance they cause the ulcer to slough – Fungous is most frequent in an ulcer, which arises from Burns, in which case the Black basilicon ointment with Burnt alum, is the best application –

+ a horizontal posture cannot be too strongly recommended – In fact our best efforts will be baffled, without the aid of such posture –

which has a purulent appearance, & coagulates over the surface of the sore, adhering ~~slightly~~ closely to the granulations — Treatment — If there be much inflammation, low diet, bloodletting, purging &c are necessary + — Bread & milk poultices are the best applications to the part; & the patient should be kept in bed — Where the patient is too weak to admit of evacuations, & the ulcer is situated on the leg, the foot may be raised + to favour the return of blood; this acts as a local depletion without depriving the constitution of its blood — I have seen this accelerate the cure considerably — When the inflammation has subsided, it may be considered & treated, as a simple ulcer in a sound part — #

2nd — Fungous Ulcers — These have large granulations with round tops, which rise above the surface of the other parts — & have no disposition to heal, or to form skin; & are sometimes possessed of great sensibility, & bleed from the slightest touch — in others they have little or no sensibility — Treatment — This may be treated by a simple compress of dry lint, secured by a roller; which presses the granulations together, & prevents the growth of fungous — If this be not found sufficient, the excrescence may be destroyed by Lunar caustic + — Adstringents sometimes answer the same purpose + —

3rd — Oedematous Ulcers — In oedematous ulcers, there is an extravasation of serum into the cells of the cellular membrane — the granulations become of a purple colour — If the patients strength be much reduced, evacuations will be improper — The oedema can frequently be brought down by straps of adhesive plaister, & raising the leg to a horizontal position + — If this does not answer, it may be remedied by

means

+ apparently healthy

° without any apparent cause –

new formed substance –

+ I have found the application of a blister very useful in preventing the sloughing –

means of a roller, which should be applied from the extremity upward — & continued, to prevent a return of it —

4th — **Slough Ulcers** — In these, the sloughing frequently arises from the weakness of the granulations — In old ulcers, when the granulations have risen to a level with the sound skin, they become of a black colour; mortification comes on, & the parts slough — Sometimes mortification does not stop even at the edges of the sore, but goes on sloughing at one part, while the skin forms at another — In general the mortification takes place over the whole ~~sore~~ — it is usually attended with febrile symptoms — but if the granulations die thro' weakness, they should be dressed with a poultice combined with laudanum — the part is generally very sensible to the touch — Ulceration sometimes comes upon both legs at once, the one breaking out whilst the other heals — this proves that it does not depend upon weakness of the constitution, or both sores would be affected alike — In some cases from weakness we should use Bark, Opium, nourishing diet &c — when the mortification has stopped, carrots grated, & boiled in milk may be applied — Sometimes whilst the mortification is going on extensively (especially in warm weather) maggots will be found in the dead parts — To obviate this, the dead parts are to be washed over with the nitric, or muriatic acid, diluted with equal parts of water — To correct the factor, a fomenting poultice mixed with charcoal, may be applied — After the slough has seperated adopt the common treatment —

I shall now speak of Ulcers, which occur not unfrequently in weak constitutions — They generally look very well at first, the granulations form rapidly, & rise to a level with the true skin, but our hopes are soon frustrated for the gran-

ulations

† Not so strong tho' as to prove an eschavotic

granulations soon change their appearance, & become of a purple colour, & a part of them are removed by ulceration — The patient should have nourishing diet, & take the Peruvian Bark, cold water may be poured over the sore for the space of 4 or 5 minutes every day — a weak solution of lunar caustic put upon lint & applied, has proved useful — also citron ointment — Lint dipped in an infusion of oak galls to which laudanum was added, & applied to the sore, has sometimes cured ulcers, that have resisted all other remedies —

5th — Indolent ulcers — When nature has been frequently frustrated in her attempts to perform a cure the parts become indolent; & when the inflammation is reduced; the edges remain in a callous tumified ring; in consequence of the coagulable lymph not being absorbed when the inflammation was removed —— Treatment — The best plan of treatment, is to remove the callous edges, after the inflammation has subsided; & so change the disposition to the same nature, as a sore from accident — This may be done, either by the knife, or by caustic alkali — or it may be done in another way, viz — by means of bandages & pressure — Mr. Baynton says the adhesive plaister will mostly answer — When the caustic is employed, we should persevere in the use of it, to the middle of the sore (& it will sometimes be necessary to apply it over the whole surface of the sore) until the ulcer puts on a healthy aspect; taking care after it begins to heal not to apply it near the edges, as we should by that means destroy the granulations & prevent the cure, making the ulcer large —

Under this head I shall speak of Mercury — mercury is

sometimes

+ down to the caries –

+ the ulcer will not heal as long as it remains –

sometimes very useful in the cure of sores, given in small doses, but if this be found insufficient, we should increase the dose sufficiently to induce a gentle tealism — The tincture of myrrh is sometimes used; or we may apply a solution of lunar caustic to the part or it may be sprinkled with red precipitate, unguentum citrinum &c — gastric juices —

6th — Carious Ulcers — Here the dead part of the bone becomes a stimulus to the absorbents, to seperate the dead portion — I do not pretend to enter into a discussion of the causes, which produce exfoliation of the bone — but I may observe, that as soon as any portion of the bone becomes loose, it ought to be immediately removed, if possible — but when the bone is situated in the more fleshy parts, it is difficult to determine whether it be loose or not: especially if the piece be large — It may however be discovered by the introduction of a probe: if the bone be tight no pain will be felt, on pressure with the probe: but if the bone be loose, great pain will be caused by a very little motion, in consequence of pressing the dead part on the new & tender granulations, if blood follows we may believe the dead portion to be loose — In order to extract it, it will be frequently necessary to make an incision — Sponge tent however often answers, to dilate the wound very effectually — One or other of these methods should never be delayed, when practicable, for granulations taking place form a substance nearly of the consistence of bone, which increasing continually prevents the removal of the dead part — Sometimes the exfoliated piece is too large, to admit of an incision sufficient for its removal; because if we divide a vessel in so hard & callous a part, it will be very difficult to take it up — to avoid the danger it is better to break the bone, with a pair of strong nippers; after which the pieces can be readily

+ But the most certain mode of relief is to take up the vein with a ligature, the place this should be performed at, is where the vein passes over the knee, & when made turgid, or when the patient is standing, an assistant is with both hands, to form the skin into a ridge across the joint; the surgeon is then to make a longitudinal incision, thro' the skin, by, running the point of the knife thro' the ridge with the back towards the vein, & cut outwards, & by that means making a complete incision thro' the skin & cellular membrane, it then remains to divide the fascia above the vein; This must be done by taking hold with a pair forceps; a silver needle with a blunt point is to be armed with a ligature & passed round the vein – The ligature commonly falls of when left to itself about the 12th day – Branches which run into the vena saphena are also sometimes diseased & in a few instances the vena saphena minor is one affected – The small veins running along side of the vena saphena major, when affected may be included in the same ligature, with the great vein, & when this attainable, it should be always done – When in the saphena minor, a bandage or laced stocking constantly worn may succeed – we should always inform our patients that one operation may fail; & then we should be enabled to perform it again – In one case I was forced to perform the operation 5 or 6 times; In some cases the ulcer occurs in consequence of the enlargement of some of the smaller veins of the leg & it may be difficult to determine whether they be branches of the vena saphena major or minor, in these cases we should always proceed to take up the minor first – & if that does not succeed, we should then take up the major – the difficulty of determining is owing to the frequent anastomosis of the veins of the leg, to which branch they belong – after the operation the ulcer is reduced to a simple state, & should be

readily extracted — In a case of carious ulcer of the lower jaw, which irritated the masseter muscle to contract, so that the mouth was kept closed; cartilage was formed, occasioned by the carious bone, so that the jaws could not be opened — The Surgeon not understanding the case, sent the patient to the city to have it dissected, supposing an adhesion of the parts had taken place —

7th — Varicose ulcers — The seventh species of ulcer is that occasioned by varicose veins, & very much resembling ulcers of the indolent kind — The vena sapphena most generally becomes varicose, & prevents the ulcer from healing — They may be often remedied by a tight bandage or stocking: but this is necessary to be continued so long, that the patient is tempted to leave them off too soon, before the cure is completed + — This may be superceded by an operation, performed by tying a ligature round the vein, so as to take off the column of blood — This practice was first revived of late years by Mr. Hunter & afterward by Mr. Home — I shall read you the treatment proposed by Mr. Home — In proceeding to the operation, he recommends the patient to stand on a table on which is placed a chair, & to lean over the back of it — In this way the veins will be completely distended & the ham will be at a convenient height for the surgeon; but in this way it is often difficult to get the light to fall on the part; & the patient not knowing the degree of pain attendent on it, is mostly restless & discontented — I therefore apply a Tourniquet on the thigh so as to compress the vein, without affecting the artery, by which means they become distended, & the operation can be easily performed — the vein may be tied up in the ham — In order to do this the surgeon must pinch up the skin on one side of the vein, & an assistant on the other: the skin so raised

is

be treated as such — It may appear strange at first sight, yet it is true, that the operation removes the varicose state of the veins — The **cause** of this disease, is an imperfection or disorder of the valves of the vein, whereby the whole column of blood lie pressing against the sides of the veins, distend them, because the valves suffer the blood to flow in all directions of the vein, the ligature by acting as an artificial valve, supports the column of blood above, & of course removes the distention of the veins — The blood which previously flowed thro' this vein, now passes along the more deep seated ones, by anastomosis which is very frequent in the leg —

+ This is intended to render the operation more easy in dividing the superficial ligaments of the Crural of blood the operation and — It confines the patient some space, for 3 weeks, it is better to be sure & that they the circumference of the leg becomes so much diminished as to allow the passage of a deep or point blunt Needle — ligature, to be cut — Dr. Physick says that the cure of the leg is apt to recur after 2 or 3 years the leg operated himself, upon one patient in taking up 2 or 3 veins, one of which pertain — the patient has continued to be perfectly free from the Affection —

is to be divided over the vein with a scalpel, which will sufficiently expose it — a silver needle with a blunt point is to be armed with a ligature & passed round the vein, & the patient placed in a horizontal position before tying the vein to free it from all the blood, removing the Tourniquet — I apply a small piece of linen rag over the vein directly under the knot formed by the ligature, so that when the sides of the vein have united, the ligature may be cut away without injuring the vein — The ligature will generally come away about the 9th or 12th day, but it is not necessary for it to remain so long — in common it may be cut away about the 5th day — After the ligature is secure, the edges of the wound may be brought together with adhesive plaister, & a pledget of lint be applied so as to press on the vein, both above & below the ligature —— If the vena sapphena be divided, both branches of it must be secured — sometimes both the trunks of the sapphena are affected & require to be tied up; but it will not be necessary to tie both, when only one is affected ——

8th —— The eighth species are caused by Local or Constitutional circumstances, & continued by a peculiar diseased action, as venereal ulcers, scrophula, Cancers &c — They may be remedied in two ways — The first which are entirely local, may be cured by cutting the diseased part out by the knife — but if one speck is left after the operation, as in venereal buboes, Cancers &c — the disease spreads like a ringworm, & requires the frequent use of caustics —— 2nd — When the continuation of the ulcer depends on any constitutional injury, that injury must be removed before the ulcer can be cured ——

Fractures — A Fracture is a complete solution of continuity of a bone; occasioned mostly by external violence suddenly applied. But this however is not always the case, because the patella is sometimes fractured by muscular contraction alone, & the humerus is sometimes fractured in the same way — Bones are supposed to be more brittle in frosty weather, because slight falls then easily produce fractures; but it is more probably owing to the powerful contraction of the muscles in cold weather — for instance, when we pass over ice the muscles contract with vehemence, & a sudden slip or fall occasioning them to act with greater force, frequently produces a fracture — This is proved by intoxicated persons, who seldom break any of their bones in slipping or falling; which is owing to the greater relaxation of their muscles — If a bone be broken obliquely, it occasions great pain, on account of the sharp edges of the fractured extremety piercing the soft parts, & causing convulsive action of the muscles — When cured the limb is frequently shorter than the other, owing to the ends of the bone passing each other — The limb readily admits of flexion at the injured part, & is often distorted, a grating noise perceived — **Fractures** are either **Simple** or **Compound** — A simple fracture is when only the bone is broken, without any external communication — A compound fracture is when there is a division of the surrounding parts, so as to admit of external communication with the cavity of the fracture — If the external communication be small, it often heals by the first intention, making a simple fracture, & has been termed a compound simple fracture —

Of Simple fractures — In the treatment of a simple fracture of the extremeties, the limb should be placed in

† I replace the bone while in that state —

* Because the uniting medium is at that time soft & yielding —

* But if inflammation should occur we must remove it, by low diet & depleting remedies — one of the best for this purpose is V. S. it is far preferable to purges, because the latter requires the patient to move about too much, & by that means the parts are irritated & possibly displaced —

in a state of relaxation, & the ends of the bone brought into their exact position — In general the convulsive action above mentioned ceases when the limb is reduced — This in general, is easily effected: but when it cannot be accomplished by the ordinary means, the patient may be bled ad deliquium animi — If much inflammation supervene, it should be treated with bleeding, & the antiphlogistic regimen — As purging is very inconvenient, it should be employed just sufficiently to keep the bowells open — The limb should be kept in its position by means of splints and bandages — Splints are stiff, firm substances — & are of three kinds — Wood — Leather & Pasteboard & whale bone — Of these the last is preferable, i.e. the paste board because it can be moulded to any figure, by wetting it in hot water & adapting it to the part, & when dry it maintains its figure —— We are very often, not called to the accident, till several days have elapsed, & a considerable degree of inflammation & swelling have taken place: this should be reduced before we attempt to reduce the limb, by bleeding, purging, low diet, & the application of lead water poultices; as union does not take place when much inflammation is present — I may venture to propose this as a general rule, that at the end of 8 or 10 days after the first dressing, we should always examine the part — if any displacement has taken place & an alteration be necessary, you may make as much as you please — The patient should be kept to a low diet, & evacuations by venesection in proportion to the inflammatory symptoms — If the patients constitution be unhealthy or weak, it may not be necessary to evacuate at all — The dressings at first should be extremely loosely applied, or else, if the limb swell, the circulation may be stopped & so produce inflammation & mortification —

The

+ The ends become smooth & forms a kind of an artificial joint at the part —

+ or rather "Dr. Physic says" That blood is effused, between the ends of the divided bones, this coagulates, & after a short time, it becomes vascular, it then changes to cartilage, & from that to bone, & forms a callous uniting the divided ends —

+ also Death is sometimes the consequence —

* I had a case of a sailor in the P. Hospital whose humerus has been fractured 20 months at the time I was consulted — I proposed to pass a seton between the ends of the bone — It had formed an artificial joint — In about 12 weeks the bone began to granulate after the operation & a complete bony union was formed — the man was discharged with his arm as well as ever — The seton should remain in, from 3 to 6 months, if the union does not take place before, less than 3 I think will rarely answer —

The time necessary to the healing of fractures, depends upon the age, constitution & place of fracturing; likewise upon the size & situation of the bone — The bones of young people, caeteris paribus heal sooner than those of old — Fractures of the jaw or ribs heal sooner than those of the fibula — The bone in some constitutions does not unite + — Two cases of fractured leg of this kind were cured in the P. Hospital by moving the broken limbs, so that the extremities of the bones might rub against each other — This was effected, by causing the patient to support himself on crutches, & moving about, to bear as much weight as possible on the injured limb — which imitation seemed to rouse the process, necessary for the formation of bone, into action — adhesive inflammation is produced, coagulating lymph is thrown out, which soon becomes vascular, then cartilaginous, & lastly forming bone itself + — Mr Hunter says when the bones will not unite, we should make an incision down to the bone; but he does not tell us of ever having such a case — It has also been recommended in such cases to make an incision down to the bone, & amputate the fractured extremeties, in the same manner as is recommended in wounds of the joints — but this is very painful & terrifying, & cannot be performed in all cases, as in fractures of leg & fore-arm + — I would rather advise to pass a Seton between the divided ends of the bone: which is a much simpler method, attended with much less pain, less inflammation, & can readily be performed in any situation * — I have performed the operation in this manner with very good success — It was done by passing a needle, armed with a skein of silk, or a piece of white ribbon between the ends of the bones: thus by irritating the parts, caused suppuration & granulations, & in twelve weeks time

+ In 3 operations on the humerus 2 succeeded completely & one partially - this last one was on a bad constitution - the patient was an old woman 65 years of age in Baltimore & who led an intemperate life - this probably would have succeeded if the seton had been continued long enough -

+ Then the union is formed in a different manner from simple fractures - 1st Inflammation - 2nd ~~granulations~~ Suppuration - ~~3d cartilage & then bone~~ - 3d & Granulation & then bone -

time, the patient complained of much more pain, in bending the arm at that place; these granulations soon united, leaving only the small hole of the seton, which healed in a few days after the seton was removed† — In old people, it should be kept in for a long time: for it appears to me that the soft parts round the bone begin to form the bone first — Simple fractures mostly unite by the first intention — Union of bone mostly requires more time, than union of fleshy parts — The coagulated blood first becomes vascular, then cartilaginous, & then bone — In this way the substance called callus is formed; which being of larger diameter, forms a tumour round the bone at that place; but it gradually diminishes, becoming less & less, till it differs little from the bone itself — At first the granulations are full of vessels — If the wound be greatly inflamed, union by the first intention fails — suppuration & granulations supervene, & the granulations when formed & examined are found to be vascular only at the extreme point, the other parts being of the nature of bone —

In compound fractures the first bond of union is lost, as the blood, which effects that union, escapes thro' the external orrifice† — Compound fractures sometimes partake of the nature of simple incision, but much oftner however, they are punctured, lacerated or contused — the fractured ends of the bone being so blunt as to tear the soft parts — again the soft parts are very much bruised, & the bone broken into several pieces by the immoderate force applied, as when it has been run over by a waggon, or any heavy substance falling on it —

Fractures

may be transverse, oblique, longitudinal, or spiral —

Compound

+ If the vessel can be seen, take it up with a Tenaculum —

+ The leg should never be amputated, because the posterior Tibial artery is open; because I have taken it up myself without much difficulty — By having a pair of Forceps with a grove in them, to receive a curved needle armed with a ligature, which then resembles a common Tenaculum — To keep the needle firm in the forceps tie the handles with a thread — when you feel the pulsating vessel pass it round the vessel, then cut the string of the Forceps & bring the needle round & tie the ligature — The place where to operate is 1/3 the distance from the ankle joint towards the knee —

Compound fractures are attended sometimes with a profuse hemorrhage — when this occurs we should apply a tourniquet on the principal artery — when the blood is thus stopped, we should next determine, whether the limb can be saved or not — if the limb be so torne & bruised, that the circulation cannot go on to the extremety, amputation must be performed — this may be done immediately, or you may wait till the soft parts slough & then amputate the bone — But if amputation be necessary, I would advise it to be done immediately, as we sometimes by that means prevent tetanus — & also the patient is more willing to submit to it at that time than at any other —— In amputation sometimes considerable hemorrhagy takes place from the medullary vessels — Dr. Gooch mentions a case, in which the stream of blood flowing from a medullary vessel in the Tibia, was equal in size to a Crow's quill — & as it ran in a long canal in the Tibia he proposed making two perforations near the end of the bone with a small trephine, which was agreed to, & the artery by this means laid bare & secured by a perpendicular pressure of dry lint — But I have found in amputations of the medullary artery or arteries, the column of blood effectually stopped by a Cedar plug being thrust in beside the artery, so as to press the orrifice completely together, & left so for 8 or 10 days, till union of the sides have taken place —— —— If the bleeding take place from any part of a compound fracture in the leg, & cannot be stopped by any other means, the femoral artery must be taken up — when the inflammation is great, it demands our attention, for if the inflammation be suffered to run on to the suppurative stage, the patient will be greatly

weak-

+ with a pair of nippers or carpal saw — If any splinters or pieces of Bone or extraneous bodies, be in the wound, it will be better to let it remain, than irritate the parts too much by their extraction — I never knew a case wher it was necessary to enlarge the wound —

+ I have succeeded in several cases in this way, & think it ought always to be done when there is the last chance of its healing by the first intention —

+ which should be removed twice a day —

weakened by the discharge of matter: his constitution becomes much emaciated, & hectic fever comes on — when the discharge is very copious, & hectic fever has taken place, amputation is advisable —

In Compound fractures we should endeavour to remove the splintered portions of bone, when any, if it can be accomplished readily: but if the pieces are attached so as to cause much pain in extracting them, we must omit it till the process of exfoliation has completely taken place — It sometimes happens that the external communication is very small, so that the blood coagulates in the orrifice, completely stopping it up, & renders the cavity perfect, so that the bone unites as in simple fracture — But if thro' too much officiousness, with a view of assisting nature, the surgeon should be very careful to wash out the coagulum, the fracture would be rendered a compound one, & go thro' the process of suppuration & granulation — If the external orrifice be very small, a portion of dry lint may be bound on it, which will become wet with the blood, dry, & form a scab — After the bones are reduced, when the ends are not splintered, the edges of the wound should be brought into contact, & secured by means of adhesive plaister — I had a case of compound fracture of the Tibia, where the ends of the bone had made their way thro' the contiguous parts; the incision was an inch & an half in length notwithstanding it united as a simple fracture, & the patient got well in about six weeks — If Inflammation run too high it may terminate in mortification — To prevent this occurence we should bleed, & apply bread & milk poultices — The bleeding should be

+ when a piece of bone is killed & a new one formed it begins around the dead portion from the ends of the live bone — 1st. gristle is formed then bone around the old one —

+ They are seldom fractured in front because the bones form an arch & are thicker, but a small force applied laterally will occasion a fracture; when the part is drawn in the voice is considerably modified —

+ There is no danger of their being displaced; because there are no muscles to displace them — When it is broken in several pieces, introduce a piece of tow into the nose to keep them in their place — 2 or 3 weeks are necessary for their union —

be repeated as often as it is indicated — Some surgeons are fearful of large evacuations at first, on account of the copious discharge which takes place; fearing they shall reduce the patients too much: not recollecting that the inflammation which precedes it, is the cause of the discharge of matter — But it is necessary to distinguish mortification caused by inflammation, & that which is produced by weakness — If it be occasioned by weakness — Opium, Bark — wine &c. should be administered — If mortification be brought on by inflammation in compound fractures, apply a Blister — It will here be necessary to distinguish, between that mortification which is produced by the part being killed in consequence of the violence applied — & that which is the effect of the inflammation induced by the violence — As the parts in the first instance having lost their life, must necessarily slough — Bones cannot bear a great degree of inflammation, without losing their life + —

Of Particular Fractures — and

1st — Of the Bones of the Nose — These bones tho' not so frequently as others, are nevertheless sometimes broken — Sometimes the fragments are pushed into the nose, which occasions a difficulty of breathing + — When in this state, they may be reduced, by introducing a narrow spatula, or something of the kind into the nostril; for a female catheter & when reduced, it may be retained in its place, by means of a Gum elastic catheter, if it be necessary + — If they project outwards, they may be kept in place by means of leather straps, spread with adhesive plaister — If the

soft

+ when it is fractured before, take hold of both fragments & you will perceive a grating — when the alveolar part is broken we can ascertain it by moving it —

+ This should be applied first under the chin, & over the top of the head two or three times, then pass part of the same roller round the head like a fillet, & pin it where they cross each other, the use of this is to keep the first in its proper place, we have then only to pass a bandage round the chin anteriorly, & behind the head, across the ears — a piece of soft leather should be placed on the chin to prevent excoriation — The bandage should be continued 4 or 5 weeks & examined often by the surgeon —

soft parts are injured apply bread & milk poultices —

Of the Lower Jaw —

Fractures of the lower jaw, occur sometimes at the symphisis, but most commonly occur at the side, & on one side only, tho' they sometimes happen on both — they occur most commonly between the chin & processes — The coronoid processes are seldom broken, because they are so well defended by muscles; & I never saw but one fracture of the condyle — we can easily tell when it is broken, tho' the fragments may be even so little displaced, by rubbing the finger along the bone: it will occasion pain at the part: & the patient cannot press the jaw against the other — When the fragments are displaced, if we look into the mouth, the rows of teeth are uneven — When the fracture is on both sides, the digrastic muscles will draw down the symphisis, while the temporal muscles draw the angular parts upward. —

Treatment —

Some surgeons advise pieces of pasteboard to be applied on the jaw, to keep it in its place — but the upper jaw acts as a splint to which the lower one may be fixed by a roller — apply the teeth directly together, having the rows exactly over each other, & confine the jaws with a roller — That which is mostly advised, is one with four heads, applying the body of the roller, over the anterior & inferior part of the chin; then drawing two heads directly upwards over the top of the head — & the other two heads, from the anterior part round the occipital bone & forehead, alternately — I prefer a simple roller, it will answer every purpose — The patient should be kept upon spoonfood, & forbidden all conversation, & should not

more

+ he can suck in his spoon victuals thro' his teeth

+ The higher up the spine is injured the greater the danger cateris paribus — When paralysis comes on in consequence of a fracture of the spine, it arises from that of the oblique processes & the body of the vertebra being injured & from splinters of bone which penetrates down into the substance of the medulla —

* you may ascertain that there is a fracture of the spine, by the grating of the bone, an inequality at the place, when you press your fingers on the part the bone will give way — paralysis &c —

+ But sometimes there is an involuntary discharge — It is requisite to introduce a catheter 2 or 3 times a day to draw off the urine — Clysters are necessary sometimes —

+ The patient cannot articulate when laid on his belly & is quite insensible as you may observe by pinching him &c — You can examine his back by laying him on his side —

+ patients have survived 40 months —

move his jaws for several days ± The dressings should be continued for about ~~three weeks~~ 4 or 5 weeks, by which time union will have taken place — Not unfrequently the teeth are loose, & under this circumstance, authors have advised to extract them — This should however on no occasion be done, for fear of making a compound fracture — Compound fractures of the lower jaw are mostly accompanied with the death of the ends of the bone.

Bones of the Spine —

when the processes of the spine are injured, the consequences to be apprehended are not serious ± When the spine is wounded, there is always an extravasation of blood from the vessels of that place — which extravasation presses upon the spinal marrow — Some have advised to make an incision down to the bone, to discharge this effusion; but as it is very uncertain, whether it is posterior or anterior to the spine — & if the latter it cannot be of any use — I would not advise it * When the injury takes place in the neck above the third vertebra, which it most commonly does, the patient shortly dies, generally about the third day — a paralysis, or palsy of the lower limbs comes on, & also of the bladder, so that the patient cannot void urine, nor scarcely faces ± & breathes with great difficulty, as it is only the diaphram which carries on respiration, it is dangerous to lay the patient on his face any length of time, as thereby, the pressure on the abdomen would force the abdominal viscera upwards, & prevent the descent of the diaphram ± If the injury happen lower down, the patient may survive a longer time ‡

but

+ The os pubis is sometimes fractured – which may be known by moving the leg –
& a fracture of the Ilium by taking hold of the anterior superior spinous process,
& moving it –

but I have never known a case of the kind, from which any one recovered — The patient is compelled to lie on his back & the parts on which he rests mortify — When injuries of this kind have occurred in the neck, extension has sometimes proved serviceable — tho' this is almost always of no service, yet for the satisfaction of the friends of the patient, we may give it a trial — To effect this, we must put two bandages round the head: one from under the chin over the top of the head: the other, from the occiput, round before it — & secure them together — An instrument is then formed, being excavated where it rests upon the shoulders, & having a screw at the top, also a hole in the piece directly under the screw, to admit the ends of the bandages — In this manner the extension is made against the shoulders, (previously having put a pad upon each) by stretching the bandages, in consequence of turning the screw above — The patient at the hospital, appeared to die from the mucous collecting in the trachea, & obstructing respiration, owing to the weakness of the respiratory force —

Bones of the Pelvis

The bones of the Pelvis are very seldom fractured, owing to their great strength — tho' I once saw the Dorsum split through — The patient cannot stand up — suffers great pain: conveying a sensation as if he should fall to pieces — upon motion of the parts, a crepitus may be perceived —

Treatment

All that is necessary to be done, is to confine the patient to one position, & that should be the most easy: & pass a roller round the pelvis, according to the nature of the case —

Ribs

+ are mostly obliqued occur most frequently about the middle of the ribs — The fractured ends of the ribs are generally very little displaced, because they are so strongly supported by the intercostal muscles — this however is not always the case for we sometimes see the ends of the ribs pass each other —

* It is not uncommon to feel a crepitus by applying the hand on the part, when the ribs are in motion, this is owing to a discharge of air, from the cavity of the Thorax into the cellular membrane — When in this stage, it may be prevented by tying a bandage tightly over the thorax over the part —

Ribs — The ribs are seldom fractured individually — Sometimes four or five are fractured at once — The most common cause of fractures of the ribs, are falls — or substances falling on us — I have seen many from the falling of masses of dirt — They are commonly attended with great pain, when the patient takes a long inspiration, i.e. a difficulty of breathing — A hacking cough is mostly a concomitant symptom — By applying the hand on the side when the patient coughs: the crepitation may be readily perceived: & if the lung be wounded, the patient expectorates a bloody mucous, air also passes into the cavity of the thorax — This when it takes place only in a small degree, is of no consequence — There will be a small inequality or angle at the place of fracture — If you press on the angle, it is of an irregular shape, & gives a crackling noise — Sometimes a swelling of the body takes place, called Emphysema — It is occasioned by the air passing from the lung into the cavity of the Pleura, which at every expiration, issues into the cellular substance, & sometimes makes its way over the whole body — When the Emphysema is partial, a cloth wet with brandy, may be applied to the part & confined with a roller — Dr. Hunter has published an account of the treatment of such cases, in the 2nd volume of the London medical observations, which I would advise you to read — It sometimes becomes necessary to make a puncture into the cavity of the Pleura, to discharge the air — When this is done, it should be between two sound ribs, or else we may let the air to the fracture, & convert it into a compound one — it should

be

+ then respiration is carried on wholy by the diaphram —

+ which is the most troublesome symptom — it is prevented in some measure by the bandage — it should be kept in its place by shoulder straps —

+ sometimes, tho' rarely, the fracture is in an opposite direction (very) it slopes obliquely from below & outwards, upwards & inwards — again it is sometimes fractured near the sternum — & at others, tho' rarely, at the acromion of the scapula — they are generally easily discovered, because the bone is thinly covered with muscles —

be done moreover, midway between the sternum & spine — It frequently happens, that the wound in the lung is so small, that the bone unites like a common fracture — The air in the cellular texture may be let out by punctures if it become necessary — tho' it never produces inflammation, as I shewed when treating of wounds ——— In the **Treatment** of fractured ribs, a wide bandage should be passed round the thorax, so as entirely to prevent the motion of the ribs — If great inflammation supervene, treat it as Peripneumonia — For the cough, which often remains sometime, the patient may take a spermaceti mixture; or a solution of **Gum Arabic** in water, combined with a portion of laudanum — sometimes small doses of liquid laudanum alone, are useful — In about three weeks, union will have taken place between the fractured ends of the bone. —

Of Fractures of the Upper Extremities — and 1st — of the **Clavicle** —

The clavicle is most frequently fractured about the middle; & in any oblique direction — & it generally slopes from the Scapula inward & downward — When it is broken in the middle, a displacement of the scapular portion takes place downward & forward — with seldom any displacement of the sternal part — the former being most commonly below the latter; the weight of the arm occasions the first, & the action of the pectoral muscle the latter — Respecting the length of the bone, its shortness may be attributed to the action of the pectoral muscle — If the clavicle be broken within the ligament, at its connection with the Coracoid process, it cannot

be

+ & when the elbow is moved upwards, a motion of the ends may be observed – the patient will lean on the injured side & always try to support the arm on something –

+ and those Pary Thos, first treated it in this way –

+ you should feel the pulse to see if it is not too tight – the arm should not be pressed too hard on the pad, it might press the vessels under the arm too much –

be displaced, & is frequently overlooked by the surgeon — This circumstance should be well remembered, for by being overlooked, the little motion it is allowed, may prevent its healing, & produce inflammation suppuration & an abscess, & thereby cause a compound fracture. But if it be broken in the middle, the crepitus may be easily felt, upon causing a motion of the arm. A patient with a fractured clavicle cannot raise his arm to his head — likewise the shoulder on the side of the injury will be much lower than the sound one.

Treatment — The treatment of fractures of the clavicle has been greatly improved by Desault — Formerly they used to set the patient on a stool, & cause an assistant standing behind him, to place his knee between the patients shoulders, & take hold of his shoulders with his hands, to pull them back, for the purpose of making extension — Compresses of tow were then applied under the arms, & a bandage was passed round over the shoulder & under that of the other, in the form of a figure of 8, the patients hand being supported in a sling — But in this mode of treatment, there is nothing to prevent the pectoral muscle from pulling the scapular portion of the bone downward, & under the sternal one — I believe this is the present treatment in England —— this method is however of no service & attended with one great inconvenience — viz — excoriation of the axilla.

I shall now speak of Desaults method. To prevent the scapular part from passing below the sternal one, a pledget or pad of folded linen, like a wedge with the thickest end upwards, should be applied under the arm & secured by a roller. This roller should be passed several times round

the

+ To prevent any disagreeable sensations from the long continued contact of the parts —

the body to prevent its slipping down — The pad enables the arm to act as a lever to the clavicle, & effectually prevents one fragment from passing under the other — The pad may be of muslin or flannel, the latter answers best — An other bandage is to be applied round the body & over the arm, drawing the elbow close to the body — Q. S. to keep up the extension of the clavicle — it should have one or two turns under the wrist, to support the weight of the fore arm — or a strip may be passed round the wrist & pinned to the other bandage to support the weight — A piece of soft flannel or linen should be placed between the wrist & the body — The weight of the arm should be supported next — for this purpose an assistant should take hold of the elbow, & push the arm upwards at right angles; this done a bandage is to be passed round, in form of figure 8, beginning as follows —— lay one end on the breast, pass over the fractured bone, under the elbow, upwards across the breast, under the sound axilla, obliquely across the shoulders, over the fracture, down the fore part of the arm, & across the back, to the place of beginning — & repeat again — Then feel if the circulation goes on in the arm — a compress dipped in camphorated spirits may be applied on the ~~arm~~ fracture — The bandages should be continued about four or five weeks, by which time the union will have taken place — tho' I would advise to continue them one week longer, as the union is very weak.——

Scapula — The symptoms of a fractured scapula, are, a drooping of the shoulder,

pain,

+ Sometimes the coracoid & sometimes the acromion process, but generally the lower part, called the angle is fractured — when the acromion process is fractured, it is pulled down by the weight of the arm, it is commonly occasioned by heavy weights falling on it — It may be easily discovered, by its being pulled down as said above, or it may be felt by the hand, being thinly covered with muscles. pain takes place when the arm is raised upwards — It is replaced by raising the os humeri upwards, so that the head may press against the scapula & by this means raise the fractured bone —

+ sometimes in a transverse but more generally in an obligue direction —

+ The patient has great pain at the part — in transverse fractures there is commonly but little trouble in reducing the fracture — If the two ends are not already in their place they are easily brought so — but when obligue are not so easily managed, the bones are drawn past each other by the action of the muscles —

pain, & crepitus+ — The acromion process is sometimes broken, tho' not often; but whenever this takes place, it is to be treated exactly after the same manner, as fracture of the clavicle — It may be replaced by pushing the arm upward; the forearm may be bent on the humerus, & the bandage passed as before described — The dressings should be continued about 6 weeks — I never but once, saw any other part of the scapula fractured, & that was nearly at its inferior angle, & transversely from the base to the inferior costa — This fracture was easily discovered by rubbing the finger along the costa — & when the scapula moves the lower fragment remains still — When fractures of this part of the scapula occur, & when the lower angle is broken off, it is drawn a little downward & forward, by the action of the serratus major anticus muscle — while the superior is drawn upward by the Teres major — To remedy this, the hand should be brought forward, to the other shoulder, which draws the scapula round, so that the broken edges will come into contact with that of the fragment — Bandages should be passed round the arm & shoulder, to secure the motion of the arm, & keep it in this position, & to prevent its moving the scapula. —

Of the Os Humeri —

This is most frequently broken about the middle+ — when they happen about this place, there is no difficulty in ascertaining their situation — the patient cannot raise his arm, nor use it in any degree; it likewise will bend in any direction, & if extension be made, the crepitus may readily be felt+ — An assistant should

seize

+ the splints should now be applied & the landage brought down again over the splints – one on the anterior, posterior, & outside of the arm – when the bandage is applied only round the part, it stops the circulation & causes swelling below –

+ when the bandages are applied, feel the artery at the wrist, if they are not too tight –

+ improperly called a fracture of the neck – is not so easily distinguished as a fracture at the middle of the bone, owing to an extravasation of blood which sometimes takes place & causes a swelling –

seize hold of the condyles, bending the elbow, & drawing it a little way from the body, to put the muscles in a greater state of relaxation: Another assistant should take hold round the patient, under the axilla - or take hold of the opposite arm to make a contra-extension - The surgeon should then take hold of the arm, & place the ends of the bone, in contact: this done a roller should be passed round the arm from the ~~elbow~~ hand to the ~~shoulder~~ axilla +, it should be pretty tight, making a moderate pressure, tho' not so tight as to stop the circulation - Three splints are sufficient to keep the fragments in their proper situation - they should be of pasteboard - these are to be secured by another bandage - The forearm now remains to be supported + this is done by a sling, or by passing a broad roller round the body; having previously made a compress or pad to apply under the arm, for the purpose of making the side level, for the support of the arm + - The bandage to effect this intention, begins at the opposite side, passing under the hand, over the elbow, round the body; & then pursuing the same course again - at the end of ten days we should examine the limb; the union at this time will be so soft, that if any displacement may have taken place, it may be easily remedied - By the end of 4 weeks we may generally omit the bandage - If the fore arm swell much we may ~~wrap~~ the bandage from the ends of the fingers - This is seldom requisite -

Sometimes the os humeri is fractured near its head +: the patient complains of pain, upon every motion of the arm; pressing the arm against the side causes pain -

The

+ and the depression is lower down, than in a luxation –

The lower fragment is inward, toward the thorax, in most cases. I never saw a case where it was either before or behind. If it be inward the elbow stands off from the body: if outward the the elbow ~~stands~~ bends in toward the body. When the lower fragment is in toward the thorax, a pad should be applied close up in the axilla, between the arm & side, to keep the bone in its right situation. Fractures near the head of the os humeri, have sometimes been taken for luxations & by trying to reduce the supposed luxation, have done considerable mischief, by irritating the surrounding soft parts, so as sometimes to produce suppuration. This mischief may readily be avoided, by placing the fingers in the axilla, where we shall be able to feel the end of the fragment, instead of the round head of the bone. Sometimes the lower fragment keeps its situation, & the patient cannot use his arm, we are unable to tell the precise place of fracture. but by extension & counter extension being made, the crepitus may be felt upon bending the arm. It is of great consequence, to ascertain, whether the humerus be luxated or fractured, for if the latter, & the lower piece be inward, the patient cannot rotate his arm as usual, if it be suffered to heal so.

Treatment. For fractures of the head of the bone, begin the bandage at the wrist & wind it to the shoulder, after the extension & counter extension have been made. The splints should then be applied. two of these will be sufficient if they are broad.

but

but three if they are narrow — applying one before, another on the upper side of the arm & one on the hinder part of it — these are to be secured by a roller — The lower fragment is to be kept out by means of a pad; which is best made of a piece of flannel, folded up & placed under the arm — this pad answers the place of a splint: this being done the arm is to be bended at the elbow, & secured by a broad roller — I prefer the roller — as a sling admits of too much motion — In about ~~four~~ six weeks, the bones will have united, tho we should examine it at the end of ten days; by which time the ecchymosis, which frequently appears, in consequence of the blood vessels being injured by the broken fragments, will have completely subsided; & we are better able to judge of its proper situation — I once saw a case where there was so much ecchymosis, that I could not feel the bones at all — Desault advises when the effusion is great, to make a free incision down to the fractured cavity, & discharge the fluid; but this renders it a compound fracture & should not be done — The natural process of absorption will mostly remove it — If however at the end of three or four months, it be not absorbed, a small puncture may be made into the cavity, to discharge the fluid — By this time the bone will have united, & we shall avoid changing the fracture into a compound one — As soon as the operation is done, the edges of the puncture should be brought in contact with adhesive plaister, so that the wound may unite by the first intention —

The humerus is also sometimes fractured transversely

+ as there is danger sometimes of anchylosis, & if it should take place & the arm rendered rigidly stiff, it would be less inconvenient in this posture than when in an extended position —

+ When treated in this manner, the arm is sometimes a little disfigured; this is done by the angles formed by the fore arm & humerus being inverted viz. when the arm is extended the angle at the elbow, when in an undisfigured state, is upwards; & in a disfigured state, is turned down — To prevent this, I extend the arm before the union is complete, & keep it so with two splints rather curved, untill the cure is complete —

transversly near the condyles, & sometimes longitudinally at the same time so as to seperate them — When the condyles are fractured in this way, by taking one fragment in each hand, & moving them backward & forward, we can easily perceive the crepitas — if only one be fractured we can discover it in the same way — Besides this the parts are so thinly covered, that the fessure may be easily felt — I have already said, that when the elbow joint is concerned in the injury, it is right to keep the arm flexed* — the forearm should be rendered incapable of motion, & after the fragments are placed right — a bandage wrapped round the elbow, beginning ~~about the middle forearm~~ at the wrist, & extending to ~~as far up the arm~~ the axilla — To fix the forearm — two splints in the shape of an L each forming right angles, should be applied, one over the internal condyle, & the other over the external one: then two more bent splints are to be applied, one anterior on the bend of the elbow; the other posterior, or over the olecranon — These splints are to be secured by bandages — The splints that extend along the forearm, should reach as far as the wrist — Every motion of the forearm displaces the fragments, & must be prevented by a bandage* — At the end of ten days we should take of the dressings, & examine the limb; at the end of ten days more the dressings should be again removed & the arm gently flexed — after the twentieth the dressings should be taken off everyday, & the arm flexed, to prevent stiffness of the joint ——

The Olecranon is sometimes fractured, & is mostly caused by falls on the elbow; it is always transverse — The patient is unable to extend the

fore

+ A fracture of the coronoid process is a rare occurrence — I never saw but one instance, & that was in a small girl, I first thought it was a luxation, which it is very apt to be mistaken for, but on examining the arm, it was thrown out of place, but on bending it again, it was reduced — In this case I succeeded by bending the arm moderately, & preserving it firmly in that state, untill the cure was completed —

+ often even than any other bone in the body — ‡ but it does sometimes happen, from receiving a blow on the arm, which aimed at another part of the body, & which it would receive by holding up to defend the body from injury, or it may be broken by falling across some hard body —

forearm, because the triceps muscle which extends the arm is inserted into the detached fragment — The upper fragment is drawn a little upward by the contraction of the muscle, & you may move it from side to side — **Treatment** — The forearm must be extended, & the process being placed in its situation, is to be secured by bandage, beginning at the wrist, & winding to the shoulder — When the bandage has gotten near to the elbow, the surgeon must feel if any portion of skin has slipped between the divided ends of the bone — the bandage is then to be continued on — A splint should then be applied on the anterior part of the arm to prevent flexion — After ten days we may examine the state of the fracture, & after the twentieth day we should remove the dressings daily, & gently flex the arm to prevent stiffness, which sometimes happens — The dressings should be continued about 15 days after, till perfect union takes place. — +
which does so in 6 weeks —

Of the Forearm — The bones of the forearm are frequently fractured, & the Radius much oftener than the Ulna+, the ulna being very seldom broken alone+ — The radius is most commonly at the wrist when the ulna is not broken with it — No difference here can be seen between the length of the Radius — all the difference that can be seen will be an angular projection at the fore part of the wrist — the fracture is commonly so low, as to be taken for a luxation. the surgeon will put the arm in a sling, & union will take place causing an ugly projection, & the patient cannot rotate the arm as usual — We may distinguish between them by the

crepitus

+ also distinguished by the lower part of the fractured bone following the wrist in its motions, by being attended with crepitation when moved & by a depression —

+ It is very much disfigured — the ends never ride each other — can be plainly perceived on extending the arm — the patient is unable to pronate & supinate the hand —

+ but the first bandage should be applied loosely, for if too tight, the ends of the radius & ulna will press against each other & forever after prevent both supination & pronation from being performed —

+ one on the anterior & the other on the posterior part of the arm —

* if wet, it would destroy the intention of their application, which is, to keep the two bones asunder, by pressing the soft parts between them — examine it about the 17th day —

* bags of chaff should be interposed between the splint & arm —

crepitus, but besides this (which cannot always be felt) we may know by the tubercle at the lower end of the radius, not being opposite the styloid process ~~as usual~~ of the ulna as usual ± It sometimes happens however, that both are broken at the same place – Whenever this happens, the patient cannot flex his arm* – the crepitus may be felt – the arm bends at the place of fracture – & there will be a lateral depression, caused by the bones being brought nearer together –

Treatment – To bring the divided ends into contact & place, an assistant should take hold of the elbow, another of the hand, & make the necessary extension – While the extension is making, the surgeon may replace the ends of the bone without any difficulty – by taking hold of the arm, & squeezing the flesh in between the bones, so as to press them out – The interosseous ligament will prevent them from being pressed too far out – this being done, a bandage is to be applied, beginning at the wrist & extending up to the elbow* – care being taken not to move the ends of the bone – two splints should then be applied, which should be wider than the arm, & should be of firm materials – pasteboard without being wet* answers very well – They should be covered with soft linen, & extend to the ends of the fingers – The splint on the back part of the forearm should be applied with the upper end below the elbow, or else the patient will punch himself whenever the arm is extended* – A roller is to be passed round the splints & the forearm supported by a bandage, having care to keep the

thumb

+ I always leave the thumb exposed, to ascertain whether the bandage is too tight — if the thumb swells any it is too tight —

+ They are commonly bruised very much when they are fractured — a grating may be perceived —

+ may be distinguished from a luxation by a crepitation when the ends are moved on each other

+ we should keep all the fingers perfectly at rest by splints — even when the parts are very much injured we should always try to make a cure without amputation — Dr. Physic has seen a case where the thumb was torn off only hanging by a small piece of skin & he effected a complete cure by placing it in its proper situation —

+ The fracture is mostly oblique, but sometimes transverse — there is mostly an angular projection before —

+ the injured side is sometimes 3 or 4 inches shorter than the other — tho' in transverse fractures there is no shortening of the limb, the ends of the bone supporting each other —

thumb uppermost, or the patient will not be able to rotate the arm as usual, if it be suffered to heal in another position + — at the end of about four weeks union will have taken place. —

The Metacarpal

Bones are sometimes fractured + — The extension can be made by pulling the fingers — two splints are sufficient — one on the fore part & one on the back part of the hand, secured by a roller. —— The hollow of the hand should be filled with soft lint or ~~tow~~ tow.

The Phalanges are

sometimes fractured + — They are easily replaced & secured by four small splints, placed one at each side, & a roller passed round them + — small pieces of adhesive plaster sometimes answer very well, enough care should be taken, not to make the bandage too tight, as the blood vessels are so small, that they may be easily compressed; which would stop the circulation, & thus destroy the finger by mortification. —

Of the Os Femoris — Fractures

of the os Femoris occur most frequently about the middle of the bone + — sometimes at the Trochanters — & sometimes at the Neck — If it be fractured at the middle & the fracture be oblique, it will be considerably shortened, the ends of the bone passing each other, in consequence of the contraction of the muscles + The patient cannot move his leg, complains of pain — the thigh bends at that place, & upon motion the crepitus may be discerned — Besides this the limb will be distorted, the toes turning outwards — & when one portion of the bone passes over the other, it will produce a lump with some tension at that place — the lower fragment is mostly drawn up under the

+ some have advised the body to be fastened by the shoulders to the head of the bed & bind the foot of the affected limb to the foot of the bed, by bands, & then to extend the limb & keep it so, but this is an extremely painful way, & cannot preserve the bones in their place — others have proposed to bring the affected limb, along the side of the sound one, & bind one to the other, so as to make the sound side act as a splint to the other — another method, is, by bring the leg over the edge of the bed & hanging weights to the foot —

+ in this position the patient rests only on two points, viz, the spine of the ilium & shoulder — It has been urged by some, that this is an easier posture for the patient, than when on his back — but I have seen this put to the test, by trying both postures on the same person who had his thigh fractured twice, once he was treated by putting him on his back & the other time on his side — he gave a most decided preference, to that on his back with his limb extended —

under the upper one behind — The manner in which fractures of these bones have been treated is very various — I shall at present shew you the method, which is now most commonly in use — The extension & counter extension being made by a assistant, the bone is replaced by the Surgeon, & short slips of muslin or linen are placed under it, and brought over so as to decussate each other, forming the many tailed bandage — a splint is then to be applied at the posterior, & another at the anterior part of the thigh — these splints are thin pieces of ceda glued on leather, & are secured by pieces of tape tied round, one at the upper & the other at the lower end — Two bags of straw are then to be applied one on the inside which is shorter & the other on the outside, both of which are to be secured by tape — To prevent the foot from turning out, a bandage is pinned to the inside bandle, passed round the foot & again pinned at the outer part — This is I believe the present mode of treatment in London — It is however inconvenient — Mr. Pott supposed the shortness of the limb, which mostly happened, was owing to the muscles being in a state of tension, when the limb was straightened out: & therefore ordered the patient to lie on the injured side, & have the thigh drawn upward towards the body, & the knee bent — & thereby place the muscles in a state of relaxation — But this will not be found to answer — for often the ends of the bones will irritate the muscles, causing them to contract involuntarily & displace the bones — Besides we cannot ascertain the length of the limb since measuring from the anterior spinous process of the Ileum (in this position) is very inaccurate — again the posture is very uncomfortable, & the patient is not able to lie on

his

+ a sheet fastened over the matrass – the bed should be narrow –

* where the patients limb is to lay –

+ neck a piece of paste board laid on this piece of linen, to apply to the back part of the thigh –

his side so long, to obviate this it has been contrived for the patient to be on his back, & to have his thigh & leg to rest on a machine, somewhat like the roof of a house, so that the muscles might be relaxed — but here every time the bed pan is put under him, the limb will be displaced — To prevent this a son of Mr. James Earle, has contrived a double bed, with pullies, to hoist the upper one, which must have a round hole cut thro' it, to let the faces pass into the pan which is placed under it — This hole to be filled with a cushion, made to fit it — but this is very complicated & hard to be procured — It is therefore very objectionable — He however has made an improvement in the bandages, having them shorter, as in the above described manner, so that the limb may be examined by just opening them at the top without disturbing it — All these modes however are found to be inconvenient for securing a fractured femoris — The body naturally descends on the lower extremities, when the patient is treated in this manner, lying on his back in bed —

Mr. Desault has greatly improved the dressings for fractured thighs, by the invention of the long splint — Now for you Desault's treatment viz — The bed should be made of firm boards, covered with a hair matrass, & the patient should have but one pillow under his head, to prevent his slipping downwards — There are several parts of his dressings — 1st — Four tape strings laid on the bed — one just above where the knee will come — & one just below it — one at the upper part of the thigh, & one at the ankle — 2nd — a piece of muslin or linen to wrap the splints in, this should be wider at the outside, having the acute end at the outside & upper end — 3d. Strip bandages, long enough to reach round the

thigh

+ moderately tight — the bandage does not preserve the bones in their place mechanically, but by pressing on the muscles keeps them at ease, & by that means prevents convulsions & twitches of the limb — & by supporting the vessels, swellings is prevented —

+ The block is an improvement of Dr. James Hutchison —

thigh, laid with the edges in contact, or so as to lap a little on each other — reaching from the perineum to the knee — 4th — A silk handkerchief, laid so as to come under the perineum, & across the Pelvis, to make the counter extension — The patient may then be laid on them, upon his back — 5th A short splint of the length of the thigh, to be placed on the anterior part of it — 6th a small piece of leather spread with adhesive plaister, & laid on the Perineum — (the hair previously shaved off) to prevent excoriation from the counter extending handkerchief — 7th — another handkerchief to be passed round under the heel, & decussated at the top of the foot, brought below it & tied, to make the extension — the same caution is here requisite — 8th A short splint to go on the inside of the thigh, & a long one to go on the outside, to make the extension — The extension & counter extension being made, & the bones placed in their right situation, the short bandages are to be applied — The long splint rolled up in the linen placed for that purpose, is now to be applied to keep up the extension — The excavated large end goes under the axilla; the holes next it are to receive the counter extending handkerchief for securing it — the hole in the other end receiving the extending one, after passing over the block, which we see in reviewing the splint edgewise — intended to keep the foot straight, & make the extension directly under the foot, in a straight line with the limb — The other short splint is to be rolled in the same manner, to reach from the perineum to the sole of the foot — Notwithstanding the splints are wrapped in the linen, there will be when they are applied, some vacuities which are to be filled up with bags of chaff; these are to be laid

between

+ & occasions pain, & by pressing too hard upon the small vessels interrupts the circulation & will produce mortification — apply the extending bandage the first time so as not to occasion pain —

between the splints & leg — & to fit the leg, to keep it steady & easy — chaff is prefered, because it can be moved from one place to another — The short splint is now to be applied on the anterior part of the thigh — The four pieces of tape are tied round the splints in order to keep them still firmer — A wide bandage is passed over the long splint & round the body two or three times, which prevents any motion — In this way extension & counter-extension are completely kept up, & the patient having many points to rest on, by lying on his back, rests easier than in any other posture — We should now examine the length of the limb — if the fractured one be too short, increase the extension — & when the bandages get slack, they should be tightened — The fractured ends of the bone, should not be drawn so as to come in contact at first, when there is violent contraction of the muscles, for if the extension be great enough, to overcome the force of the muscles, it will cause great excoriation — But by keeping up a moderate extension for a few days the muscles yield to the force, & are easily overcome — we should observe it every day to see if the dressings are all right —

The splint now generally in use, is not the one originally proposed by Mr. Desault, in its primitive form, but considerably altered — That one wanted by him, come only to the upper part, or spine of the Ilium, & extended a small way below the foot — The inconvenience resulting from the transverse position of the counter extending stay, which almost always pressed the upper fragment outward wanted remedying — I therefore lengthened the splint so as to reach up to the axilla, by this means, the place for securing the counter extension, could be brought to a straight line with

the

+ & it may be made to act still more so, by passing a bandage, round the opposite side of the body, & tying one end, to the extending bandage on the posterior, & the other to the anterior part of the body, & thus drawing them in the direction of the body — the advantage of this is, that it pulls more in the direction of the thigh, than Desault's; his by acting more transverse, is apt to draw the superior fragment outwards, by that means causes the thigh to remain bent often, when cured — Another defect in Desault's is, that the whole force for extension, is applied on the perineum, & by this means is apt to occasion inflammation & troublesome abscess, this is avoided by the bandage acting in the manner I have described, in the direction of the thigh, & also by having the splint to extend up to the axilla — The bones unite in 6 or 8 weeks —

+ from falling on the Trochanter major — the limb is sometimes an inch & a half shorter than the other one — The direction of the fracture is commonly oblique, from below & outwards, upwards & inwards; therefore the lower part is drawn up by the action of the muscles —

+ & the patient is unable to turn it upward —

+ or if the foot is also held off & rotated, the os femoris instead of performing the centre of motion on the head, will do it on the Trochanters —

the limb — & by placing a pad in contact with the axilla, a portion of counterextending force, might be supported, & thereby prevent the galling of the Perineum — This is particularly useful in women, when the urine is very apt to get under the dressings & excoriate the parts — When excoriation takes place it may be washed with a little brandy — this I have found an excellent remedy —

Sometimes fractures happen at the neck of the femur — This may take place at the head of the Trochanter, or near the round head of the bone — or, the head itself may be fractured within the ligament — The patient is often sensible of the crack, at the instant it happens, & cannot rise from the ground, walk, or stand — Tho' Desault mentions two cases where the patients could walk, the fragments had become so interlocked — The foot turns outward, seldom or never inward: tho' it is said sometimes to do so — The Surgeon can pretty readily extend the limb, if he is called in soon after the accident, but if a considerable time has elapsed, more force will be necessary: & I have sometimes been compelled to bleed ad deliquium animi — The extremities being brought in contact, the crepitus may be perceived — There is another circumstance, by which the existence of a fracture may be found; place your fingers on the great Trochanter, & then rotate the limb; if the neck of the bone be broken, the rotation will appear to be on the axis of the thigh bone, or, as if the bone revolved on a pivot — but if it be broken lower down, the axis will be thrown further off, & the Trochanter will describe a much greater circle — The idea of the thigh bone

revolving

+ A fracture of the neck is sometimes difficult to distinguish, from a luxation of the hip joint; but we may discover which it is by the following appearances - viz - In luxations the toes are turned inwards instead of outwards, & great force is requisite to replace the bone, while, in a fracture it is easily done; when moved no cracking noise is heard - the femoris when made to rotate, does not rotate on the Trochanters, as in fracture, but on its head - Before we commence the examination, the patient should be placed on his back, we should then feel for the superior anterior spinous process of the Ilium, & lay a straight stick from one to the other, if the stick is exactly horizontal & transverse, making a right angle with the spine, the pelvis is straight - when this circumstance is not attended to, it often occasions much embarrassment, from the patients raising the pelvis on one side, or not laying straight in bed, & thereby making the injured limb as long as the other we should proceed to apply the proper dressings & machines, for keeping up permanent extension in the same manner as is done in fractures of the body of the femoris, which is to be continued for 3 or 4 months - we should first begin by applying the bandages &c. moderately tight, or convulsion of the muscles might take place) & continue to tighten them during the cure -

+ or downward & forward -

revolving on a pivot, will be strongest when the neck is fractured nearest to the Trochanter — If the limb be much inflamed we must decline setting it, until the inflammation has abated — Fractures of the neck, I believe heal as soon, as of any other part of the bone; unless when they occur within the capsular ligament; & I have seen one patient, where a fracture of this kind did not unite in 8 years —

As we cannot always ascertain exactly fractures at the upper part of the thigh bone, it is right in all affections of this kind, to apply Desault's apparatus — It would be right to inform the patient of the danger, & difficulty of union, when fractures occur within the capsular ligament — or even in any part of the neck of the bone — The dressings should be continued, Desault says, from fifty five to sixty days — I have seen but very few cases of fractures of the neck of the thigh bone; indeed I may say but one — In this case the apparatus was taken off, at the end of six weeks, when the union was consequently very soft — the patient could not walk for near a year, & still limps — this patient was not old — I think only a sort of ligament had formed between the divided extremities — In every case therefore we should continue the dressings according to Desault —— Contusions on the buttocks are sometimes mistaken for fractures of the neck of the bone — they may always be distinguished by the length of the limb being the same —

Sometimes the Femur is fractured lower down than the middle, just above the condyles; the lower fragment sloping obliquely upward & backward — When it is broken in this manner,

splint

+ It is necessary to apply the bandage, beginning at the ankle & extending above the knee — a thick pillow should be placed under the knee —

splints applied in this way on each side are sufficient — Desaults apparatus answers this purpose very completely: a thick compress should be laid under the leg, to raise the lower fragment —

At times, besides being fractured above the condyles, the condyles themselves are likewise seperated — Fractures of the thigh bone at this place are easily ascertained — The thigh bends at the place, & the crepitus is readily felt: the patient cannot bend his leg; & when the condyles are seperated, the crepitus may be discerned by grasping the condyles with both hands, & rubbing them against each other — I never but once saw a case of this kind — this was at the hospital; but in this case the extremities of the upper fragment, pierced thro' the integuments, & made a compound fracture, communicating with the knee joint, & the patient shortly died — Splints on each side are here likewise sufficient — unite in 6 or 8 weeks —

I shall next show Dr. Hartshorns method, which is certainly a very ingenuous one, & sometimes answers better than Desaults — His principle object is to make the extension & counter extension, fall in a straight line with the limb, & thereby avoid, any displacement by the extension — application of the apparatus —

Another advantage is, preventing the foot from turning outwards — One advantage in particular, derived from this mode of treatment is, when the fractured ends form an angle anteriorly: which by this manner of dressing can be kept down completely by compresses — You perhaps may suppose, a bandage in the usual manner might do, but it will be found insufficient —

The

+ But they are most commonly oblique –

+ If the patient can walk sometimes pretty well –

The chief use of bandages near the thigh, is to prevent the action of the muscles: and may likewise give some lateral support.—

Fractures of the Leg—

These occur most frequently about the middle, & when transverse, are accompanied with little or no displacement of the fragments: but if the bones be broken obliquely, the lower fragments pass behind the upper ones, forming an Angle anteriorly — the lower ends of the lower fragments, being drawn backward by the contraction of the muscles — — The Tibia is more commonly fractured, than the Fibula — they occur sometimes at the upper end, near the head, sometimes near the middle & sometimes, just above the ankle — If one bone only be broken, the other keeps them in its proper situation — If it be the Tibia, by grasping the limb above & below, & trying to bend the leg, the fracture may be ascertained — If it be transverse no displacement will take place — I once had a case of this kind, when the patient, after having his limb dressed, & had been in bed for three days, felt so easy as to suppose I had been mistaken, & that his limb had not been broken; he therefore took off the dressings, & began to walk about the room — The family likewise thought I had really been mistaken — Being confident of the existence of a fracture, I desired him to let me see him walk: he did so, but the bone frequently bent under him, he fell on the floor, & had nearly converted it into a compound fracture — In all cases, by grasping above & below the fracture, and moving the limb, the crepitus may be felt — When the fibula is fractured, the crepitus may be felt on moving the foot — —

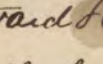
Treatment

+ or in this way — 1st have a narrow horizontal bed — 2nd have a broad board laid down quick — 3d a pillow laid on that — 4th a bandage of strips — 5th a couple of splints made of pasteboard, wet in warm water laid longitudinal with the pillow, reaching from the knee below the foot — 6th over these splints another bandage of strips — the patient is then laid on the table upon his back — extension & counter —

+ see next page *

+ by the pressure of the bed clothes —

+ The parts should be examined on the 8th or 10th day —

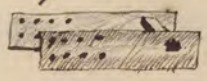
Treatment — The leg is to be laid on a pillow after extension & counter extension are made, & the fractured extremities brought into contact: a roller may be passed from the ankle to the knee — but as this cannot be easily opened to examine the limb — I prefer the strips — During the application of these, the extension & counter extension should be kept up, by assistants — two splints are then to be applied, one on the inside & one on the outside of the leg, & secured by pieces of tape — The splints should be of pasteboard, wet in warm water — + To support the leg, & keep it firm, two narrow boards are to be placed, one at the inside & the other at the outside, enclosing the pillow on which the leg rests, & to be secured by tape — ‡ If it be left in this manner, the foot will fall outward & downward + — a bandage pinned to one side, passed round the foot, & secured to the other side, will prevent this — A cradle, in this form  or, in want of this, a couple of hoops, of a common flour barrel, with about one third cut out of each hoop, & crossed in the middle, in this way, + is to be placed over the limb, to support the bed clothes +

When the Tibia & Fibula are both broken transversely this answers very well; but when obliquely an angle will be formed anteriorly, & the leg will be shortened on account of the contraction of the muscles — In these cases the extension & counter extension invented by Desault, has been greatly improved by Dr. Hutchinson, whose method I now show you — The counter extension is made by two pieces of tape placed on the inside, & two placed on the outside of the leg: then a roller passed round them below the knee, so as to secure them in that situation — This should not be drawn tight, or else the leg will be apt to swell, in consequence

of

*& the splints farther secured to each other, by tapes tied round their middle — in 5 or 8 days examine the limb to see if all is right — It may be sometimes best to provide a box, & lay the leg in it on a pillow; this box should be made by nailing the sides to the bottom, or what is better have them fastened on by hinges, that we may lay them down at pleasure, & examine the parts more conveniently; a foot board should be also provided, which should be lined with flannel, & have the foot confined to it, by tape, passed thro' holes made in it, for that purpose — an advantage in using this box, is that we can more easily raise the foot & leg when made necessary by inflammation or fever — It would be still more convenient to have a double bottom the upper one hollowed so as to fit the calf of the leg, & confined to the bottom one by a hinge, but laying loose before so as to admit of its being raised with the leg on it, at pleasure, without moving the bottom at all —

+ In men Default apparatus might answer very well — but in women we should always use the splint just described, as the long one might offend their delicacy — tho' we should always apply the short splint first, in men too, as it sits much easier & is more convenient to the patient —

of the superficial veins being pressed — a silk handkerchief, which is best, should be passed under the heel, brought on top of the foot, decussated, carried below, & tied, to make the extension — Strip bandages are to be placed under the limb, enough to reach from the knee to the ankle: the extension & counter extension is now made by the assistants, while the Surgeon wraps the bandages — two splints with holes in this manner  are next to be applied, one at each side of the leg; these must be long enough to reach from above the knee, below the foot, 6 inches — The tapes on each side of the leg, are to be passed thro' the two smaller holes at the upper ends of the splints & tied; while a bar is passed thro' the larger one beneath the foot, & fastened by wooden pins — The extending handkerchief is tied to the bar, by which means the extension is completely kept up — Two bags of chaff are to be placed between the leg & the splint, one on each side, & the leg supported by a pillow — The greatest inconvenience resulting from this mode of treatment, is the swelling of the leg, or an oedema occasioned by the bandage round the knee: The foot too, often swells, in consequence of the lymphatics being pressed as well as the veins — This mode of treatment will not do, when any considerable swelling or inflammation exists, as it will tend to increase it — This is a good method, for compound fractures, as it can be easily opened to examine the limb, & to apply dressings to the wound, & the extension & counter extension can be preserved, when the fracture is oblique — In one instance, with this kind of treatment, the limb swelled so much, that I was obliged to omit, & use Desault's apparatus +

Sometimes

+ altho both bones of the leg are commonly broken at the same time, yet sometimes only one is & that most frequently the Tibia; then the Fibula acts as a splint preventing a displacement & so of the Tibia when the Fibula is broken — The Tibia when fractured occasions great pain in the part; when taken hold of above & below & moved a motion of one or the other may be seen — it may also be felt, by passing the fingers along the bone — & crepitation may sometimes be heard by moving the bones —

+ we should apply the many tailed bandage, then two paper splints, fastened on by a roller, then two wooden splints, & lastly the box mentioned above —

+ which is the most common cause of the fracture — It generally takes place, about 1/3 the length from the ankle to the knee — the fractured ends are driven in towards the Tibia & a depression is observed on the external part of the leg — the foot is likewise turned outwards —

* The astragalus pressing against the external malleus —

* If this is not done, the ends of the bone moving about, will occasion inflammation & probably an abscess will form — a bandage should first be applied from the ankle to the knee, but only moderately tight — the splint should then be applied, to reach from above the knee to the sole, along the side of the foot, to prevent any motion laterally in the foot — The splints should be softened in water, then applied & secured by a bandage — the leg is then to be laid on a pillow in the box — after applying these dressings it would be advisable in all cases, to wet them with brandy or vinegar, or with vinegar & oil well mixed — the applications serve to soften the skin & prevent inflammation. In all cases of fractures of the leg, the bed cloathes should be prevented from acting & pressing upon the parts, by the provision laid down in page 102 —

On the subject of Fractures I would recommend you to read Desault's & Boyer as translated, with observations by Dr. Plattson the translator, the latter work, I would recommend to you most careful perusal —

+ Sometimes the Tibia is fractured nearly at the knee joint — In fractures happening at this part displacement seldom occurs; but the joint is very apt to swell & become much enlarged, & is often difficult to cure — I have seen a case of this kind, where all the anti-phlogistic remedies had been tried, as bleeding, purging, cupping, the application of leeches &c — but with no benefit: which was cured simply by extension & counter extension, & the anti phlogistic regimen — The patient should be kept in bed a long time, as union does not take place soon + — When they happen at the knee, the limb should not be moved for four weeks; & the dressings should be continued for six weeks; & then moved but little, and very carefully — When it is fractured at the ankle the same treatment is necessary (requisite) —

The Fibula is mostly fractured at the lower part, near the ankle; but if broken by a blow, it may occur at the place where the violence was applied ‡ — But the Fibula is sometimes broken by an abduction of the foot, ‡ & the foot likewise luxated; the reduction of it may be easily accomplished, by grasping the foot & knee & making extension — For a fractured Fibula the bandage should not be applied tight, for the same reason as in the forearm — Two splints are to be applied at the sides of the leg, to steady the foot, as the cure cannot be made, if the foot be allowed to move, because the lower fragment will follow the motion of the foot * — In about twenty five days union will be effected. —

I shall

+ from a powerful contraction of the muscles — One of the riders at the circus fractured his patella in jumping upon a horse, which was evidently the effect of the contraction of the extensor muscles —

+ when the pieces are separated from each other in this manner, the injury is easily ascertained, but sometimes they remain in contact, then it is somewhat more difficult, but we may discover the fracture, by feeling with the fingers, it being thinly covered with flesh —

+ i.e. extend the leg on the thigh, or bending the thigh on the body

I shall next speak of Fractures of the Patella —

Fractures of the Patella are commonly transverse; sometimes they are oblique; & I once saw one longitudinal — The transverse are generally occasioned by a violent extension of the leg; & the oblique & longitudinal, by great external violence, as falling upon the knees — When a fracture of the Patella takes place, the knee becomes tumid, & the upper fragment is drawn upward by the contraction of the muscles, the lower fragment being fixed by a ligament cannot move — The patient cannot walk forward, because he cannot extend his leg, but can go backward dragging it after him — When the leg is extended on the thigh, the upper fragment will sometimes come in contact with the lower, and the crepitus be felt — In longitudinal fractures the fracture can be easily felt, the integuments are so thin — & crepitus may be felt, by rubbing the parts upon each other —

Treatment — In transverse fractures, bring the upper fragment down as near as you can — The patient is to be laid in bed, & the trunk raised by means of pillows, so as to relax the extensor muscles of the leg — The leg too, is to be elevated in the same way — When the patient is placed in this position, & the fragments are brot close, apply a bandage from the foot to the knee; an assistant then holds the upper fragment down, while the surgeon passes another bandage from the hip to the knee — The fragments being thus brought together; a compress is to be applied above the upper fragment,

&

+ Dr. Dorsey recommends two bandages tacked to the splint under the knee & brought over each side of the patella ~

+ in 8 or 10 weeks union by ligament will have taken place ~

& a similar one below the lower one — These compresses are to be secured by a roller passed round the knee, nearly in the figure of 8 - as follows - viz - Beginning above the Patella, pass under the over the Tibia just below the patella, & so on pursuing the same course again — This is the best method of dressing — The compresses being secured, pass another bandage over the patella, so as to cover it, to prevent the soft parts from swelling — In this manner the ends of the bone can be kept in contact — the bandage wrapped from the foot, prevents the foot & leg from swelling: while that of the thigh not only prevents swelling, but counteracts the disposition of the muscles to contract — To prevent the flexion of the leg, a splint reaching from the Ischium nearly to the heel, is to be placed on the posterior part of the leg - It should be covered with flannel & secured by a roller — If the splint reach below the foot, the pressure against the heel may produce ulceration — The leg is to be kept elevated for some time — Some surgeons have been afraid to bring the edges of the patella in contact, for fear the bony matter would be effused into the cavity of the joint, & produce Anchylosis — If the bandage on the upper fragment be too tight, anchylosis will sometimes actually take place — The pressure causes an absorption of the cartilage, & union takes place between the bones, rendering the joint stiff — The bandages should never be applied tight, if much inflammation exist — Union will be a good while taking place — indeed we can seldom bring the fractured extremities together so close, as to form a bony union — When the dressings become loose,

they

+ when luxated the motions of a joint are much impeded & sometimes totally lost —

Continued without ceasing to fatigue the muscles —

+ Sore clas the muscles —

they must be renewed by the surgeon —— In longitudinal fractures, a compress is to be applied on each side, & the flexion secured – Sometimes the upper fragment, where no attention is paid, is drawn up, three or four inches, & a ligament is formed, uniting the ends of the bone, to assist the motion of the leg – This ligament altho' it has been supposed to be an imperfection in the animal economy, is a surprising specimen of the perfection thereof; for if a bony matter had been thrown out, & completely ossified, the knee would have been entirely stiff: whereas by this ligament being formed; the patient may come to have the perfect use of his leg, by gently exercising it every day – The patient should sit on a table & swing his limb as much as possible – altho' he will acquire strength but slowly, yet by perseverance the muscles will accomodate themselves to the extra length of the Tendon, & the patient will be able to walk as well as ever.

Dr. Stancorn

Dislocations

– When any bone forming a joint is forced out of its natural situation, it is said to be luxated; it occasions the patient considerable pain, & causes a very considerable alteration in the shape of the limb. In general if the Surgeon is called soon after the accident, it is easily reduced; the greatest difficulty we have to contend with, is the contraction of the muscles, the ruptured capsular ligament does not make much resistance, except under certain circumstances – The patient should be restricted to a low diet – warm bath, opium & mechanical force – And when there is a difficulty of reduction, bleed

to from

+ The fair Hearers I may be said to be indebted to Dr. Alexander Monro —

+ after a time — nature attempts to form a new joint — Dr. Physic mentioned a case where a little girl luxated both hip joints upwards & backwards — new acetabulums were formed on the dorsum of the Ilium tipped with cartilage — she could get along pretty well with crutches —

from both arms to weaken the contraction of the muscles, after which the mechanical force will be able to overcome them, with greater ease — In difficult cases, I have found, when the usual remedies fail, the best method is to bleed ad deliquium animi —— This completely destroys the muscular force; & experience proves it to be the best method — This mode of practice was first adopted in this country by myself — When the patients refuse this, I have tried the nauseating effects of Emetics; or an injection of an infusion of Tobacco or Tobacco smoke, have proved successful when other things have failed — Boyle says that intoxication produces the same effects; & I should suppose so, very well — The muscular contraction continues to resist the reduction, for about three weeks, after which, the muscles become accommodated to their situation; & by this time the bone begins to form adhesions; which with the contraction of the capsule of the joint, causes the difficulty of replacement, so that it is not necessary to bleed ad deliquium animi, I think in cases where luxations have continued more than a month —— When we apply force for the reduction of a luxation, we should be careful to apply it to the dislocated joint only — the limb should be placed in a relaxed state ——

Of Particular Luxations —

Lower Jaw —

When luxations of the Lower jaw occur, they always take place forward & upward, so that the condyles rest on the tubercles of the temporal bone — sometimes both condyles are brot forward, & sometimes only one

+ seat the patient on a chair

+ when only one is displaced, we should apply the force, to that side only, in this manner the reduction may be effected without any difficulty —

one — When one only is displaced, the jaw is turned to one side — When both are luxated, the mouth stands wide open, in spite of the efforts of the patient to the contrary — & the patient cannot swallow or articulate — the same effect takes place when only one condyle is displaced only & is pushed to one side — If you apply your finger to the place of articulation, the cavity may be felt — Luxations of the jaw occur from yawning, or from opening the mouth too wide, sometimes causing great pain — Some years since, a woman in the market, falling into a great passion, & opening her mouth pretty wide, the better to vociferate against her husband — luxated both condyles, & to her great mortification could not close her mouth again, & was brot two or three squaws in this predicament to me, to have them replaced — they were easily reduced ——— **Treatment** — In proceeding to reduce the lower jaw, we must take the precaution to wrap up our thumbs, very well, to prevent their being injured by the convulsive action of the muscles — They must be placed as far back, on the molar teeth as possible — the fingers are to be placed under the chin — Then push the jaw downward & backward, at same time raising the fingers upward — If the jaw be not pushed downward, the reduction is not so easily effected, if at all — I have seen great force applied directly backward without any effect — Some have advised to give a knock under the chin — this may sometimes succeed, but it is apt to break off the ~~condyles~~ necks of the condyles; no bandage is necessary after the reduction. ——

Clavicle

+ The clavicle is usually thrown forward here –

+ or the clavicle rises up, while the scapula is pulled down by the weight of the arm & force of the fall –

+ It is reduced by raising the arm & shoulder – should be pushed outward & a pad put under the arm –

+ during this time the bandages should be removed & reapplied frequently –

Clavicle — This

is sometimes luxated — It may either take place at the sternum, or at the acromion process — I have never seen it occur at the sternum, tho' I have no doubt but it may readily take place, on account of the superficial articulation, if a considerable force be applied, so as to push the shoulder forward & inward — if it happen the patient will not be able to raise his arm — Luxations at the scapula, & which occur not unfrequently, may be occasioned by the patient being thrown on his shoulder, from a horse, or otherwise, so as to press it downward ——— **Treatment** is the same as for fractured clavicle when the scapular end is luxated — We must continue the bandages a long time, for six or eight or 10 weeks, or else the shoulder will sink down lower than natural, in consequence of the ligaments being too weak to support the weight of the arm, and the projecting acromion form a tumour on the top of the shoulder —

Os Humeri —

This is luxated at the shoulder joint, oftener than any other bone, owing to the great latitude of motion, in every direction allowed by its glenoid cavity — It is most commonly luxated downward & inward, towards the axilla; & is mostly occasioned by a fall on the shoulder — Tho' I have seen it luxated forward between the pectoral muscle & clavicle — and it is said to have been luxated backward — this I have never seen — When it is luxated downward & inward, a depression can be felt above the humerus, between it & the acromion — If you put your fingers in the axilla, the

+ Pain is always an attendant in these cases, & generally the use of the joint is lost tho sometimes the arm can move backwards & forwards, but cannot be rotated or raised directly outwards –

+ the surgeon's hand on the acromion process, & bore firmly down by assistants pressing on his hand – while he with the other hand takes hold of the arm & rotates the humerus, to break loose any adhesions which may have formed & dislodge the head –

+ In this way I have always succeeded in recent cases –

round head of the humerus may be felt — the patient cannot put his elbow to his side — he cannot rotate his arm, nor raise his fore arm to his head, which is mostly somewhat fixed — he commonly has an inclination to rest his arm on something to support it — I have already shown how to discriminate between luxations & fractures of this bone, which you will do well to remember. —

Treatment — If the surgeon is called soon there is little difficulty in replacing the bone, because the muscles do not begin to exert themselves, immediately — I have accomplished a reduction, by placing one hand on the acromion process, to make the counter extension, & pulling with the other, to make the extension — To apply a great deal of force, it is necessary to place a couple of towells on the arm just above the elbow, by means of a roller, then turn the upper ends of them down — But Mr Hey's method is preferable — when the arm is drawn out by an assistant, & the counter extension made by another, place your hand in the axilla, & push upwards, at same time, suddenly press the elbow in towards the side — After you have tried this method, if with no success, bleed ad deliquium animi — if the patient be strong, this cannot do any hurt, & if weak, it will not be necessary — this completely removes muscular action, & the limb can be reduced with ease ——— About 10 years since a man was admitted into the P. Hospital, with a dislocated humerus, the accident had happened three or four weeks before; & the parts were so much swolen, that he had to remain 10 days, before we could

tell

+ It should always be practised, when the patient will not submit to force, sufficient to effect the reduction.

+ the rent in the ligament also, thro' which the head had passed out, becomes contracted round it.

tell whether it was luxated or not — After having tried all the usual methods to no effect, I bled him till he fell on the floor in a faintg fit — when the bone was reduced with the greatest ease — I have since repeated it, with the same good effects —

When a limb has been luxated for three or four weeks; the muscles become accommodated to that situation, & begin to form adhesions — The best way to accomplish reductions after adhesions have taken place, is by means of a compound tackle —

Take two round towels, & secure them at the middle to the arm just above the ellbow by means of a roller, (always taking care to place a piece of Buckskin or some soft substance round the arm to prevent abrasion) turn the upper halves down to the lower, & to the ends of both secure the rope of the tackle, to make the extension — The other rope to secure the tackle, is to be fastened to a firm place — To make the counter extension, a long strap, about an inch & a half wide, part of it stuffed with horse hair or cotton, must be applied against the end of the acromion process, & the ends brot round the body in a contrary direction, & made fast to some place — To prevent the strap from slipping of the acromion process & excoriating the shoulder, a strip or roller may be passed round it, by which it may be held in its place — To secure the thorax, have a wide strap or belt passed round the body: securing it by a buckel or otherwise — To this have a rope, which may be held by an assistant, to keep the body in its place, as the patient is apt to get on one side —

The

+ care should be taken not to have more assistants to make extension, than counter extension - as more would be superfluous - It is of great importance to remember that the extension & counter extension should be made at the elbow & acromion process - for the reason just mentioned -

+ when this is done a crack may be heard - the extension should then be stopped - the arm drawn down by the side & secured there - the surgeon should not neglect to rotate the arm - in this manner we may reduce almost any dislocation of the os humeri -

+ I myself have reduced it after the 6th week & even 3 months - In a letter from Dr Wm Ramsey of Baltimore, a case is stated in which he reduced this bone, after its being out of place 6 months, it was done with ease, by first bleeding the patient to the amount of 5 lb - neither swelling or pain occured, & the patient was completely cured -

He should lay on his back — Thus fixed, draw the rope to make the extension, & have a care that the counter extension be made against the acromion process, else the arm may be torn from the chest + It is therefore of the greatest consequence to make the counter extension against the acromion — In making the extension, the arm should be rotated to seperate the adhesions, which may have formed + The surgeon may have a towel under the arm, & over his shoulders, to draw the arm up — or he may put his arm in the axilla, & press the patients elbow downward with his other hand, using the humerus as a lever + — The bone has been replaced after having been in the axilla for six or nine weeks, & indeed a much longer time — for if it be possible to displace a bone, surrounded by a firm capsular ligament, from a natural to an unnatural situation — it must be easier to bring it from an unnatural situation to a natural one + but when the bone cannot be replaced, we are not to despair altogether, since a great many useful motions can be performed — I knew a cabinet maker, whose arm was dislocated, & yet followed his trade — & the only motion he could not perform, was drawing his arm directly upward — I shall not pretend to describe all the machines that have been invented to reduce luxations, but only a few of them — It has been supposed that a staple fixed into the floor over head, & the patient suspended from it by his arm, would be productive of good effect; but it will endange drawing the arm from the chest, as no counter extension could be made against the scapula — Another method is, to grasp the arm for the purpose of making extension, the patient lying down —

then

+ but never forwards, unless the olecranon is broken off —

+ & when to the external side, the round head of the radius may be felt on the external condyle — while the olecranon occupies the place, from which it was removed — When internally the olecranon may be felt on the external condyle

+ The olecranon may be felt above the condyles some distance — the luxation may be ascertained by measuring the sound arm, from the lowest part of the acromion process, to the end of the middle finger, & compare with the other — Dr. Physic says it is well to know all these methods of ascertaining a luxation, as it is sometimes extremely difficult to decide —

* Luxation of the head of the Radius — This sometimes takes place, the radius is thrown upon the ulna, the head is pinned & cannot be seperated — The surgeon reduces this accident, by pushing it over the sides of the ulna — all motion of the bone should be prevented by a splint, & proper bandages —

+ for I have reduced it after the end of a month —

then to place the foot in the axilla, to make the counter extension, & when you make the extension, pass the arm toward the side, & your foot will thrust the head of the bone into its place — I saw Wm. Hunter do this very successfully — Some advise hanging with the arm over a ladder — But none of them are very good methods. In all cases a broad bandage should be applied round the arm & body to confine it to the side, & continued for some time. —

Forearm — This is mostly luxated upward & backward, forming a protuberance behind the arm; which is kept flexed — tho' sometimes it is luxated laterally — The coverings of the parts are so thin, that the surgeon can readily ascertain the nature of the case, — the forearm is moderately bent — the patient cannot flex or extend his arm — The coronoid process of the ulna, occupies the cavity for the olecranon, & is what prevents the reduction — & this arm is of course shorter —

Treatment — In order to reduce it an assistant should take hold just above the elbow, & another below at the wrist, to make the necessary extension — the surgeon is to take hold, at the elbow & pull at the same time directly backward to draw the coronoid process clear of the humerus — when the arm is forcibly enough extended by the assistants, bend it towards the body, which will in most instances completely effect the reduction — a bandage must then be passed round to secure it in that situation 8 or 10 days — When the luxation is lateral the same treatment is necessary — Boyer or Desault tells us that this luxation, cannot be reduced after twenty days have elapsed from the accident — This is not a fact — *

The

+ occasioned mostly by falling on the fingers or hand – the hand is either bent & the patient cant extend it – or is extended & the patient cant bend it – besides the accident is very perceptible both to the eye & touch –

+ slipping over each other – the patient cant bend the finger

+ It remains extended & the patient cant bend it –

+ The difficulty is owing to the joint or the ends of the bones when laped over each other – being tied together by the lateral ligaments, which is put very much upon the stretch – It may mostly be reduced, however, by making extension & counter extension, & while it is making bend the thumb – Mr. C. Bell advises to divide the ligament, which I think will answer very well it may be easily reduced then – apply a splint to keep the thumb perfectly at rest – see his work

+ when we consider the depth of the acetabulum – strong ligaments – & powerful muscles surrounding the acetabulum & head of the bone; it's natural to conclude that a luxation would be impossible here –

+ of a dozen luxations of thigh bone that I have seen – nine were upward & backward –

+ also forward & upward, then the head rest on the os pubis or near it – also downwards & backwards & forwards, inwards & backwards –

The Wrist is sometimes luxated not often tho; this takes place forward & backward. It can be easily reduced by making the necessary extension, & pressing the bones at the same time in their places — Luxations of the Fingers sometimes occur, & either forward or backward — Extension, & bending the fingers will commonly reduce them —
a splint is useful in expediting the cure —

Thumb — When this is luxated at the second phalanx, it is the most difficult to reduce, of any bone in the body. — extension has been applied so as to take off the first phalanx, and yet not reduce it. —

Os Femoris —

This was formerly thot by some, not to occur, on account of the amazing strength of its capsular ligament, whose strength they computed to bear 1000 lbs, & from this concluded, that luxations could not happen. — I have seen more luxations of the thigh at the hip than I have seen fractures of the neck — I believe about nine luxations & three fractures or one fracture — It is generally luxated so that the head of the bone passes upward & backward, lodging on the Dorsum Ilii. & next to this downward & forward, into the foramen ovale — and it may be luxated directly backwards. — When it is luxated backward & upward, the limb is 2 or 3 inches shorter than usual — If a bruise has taken place above the pelvis, it may influence the length of the limb, by causing the pelvis to be drawn on one side — In order to ascertain whether the pelvis be straight; place a strip or string from one superior process to the other, if it cut the body at wright angles

the

+ The trochanter major is higher than the one on the opposite side – the patient cant use the joint –

+ It can be easily drawn down & made as long as the other leg – in luxations it cant be done without reducing the luxation –

+ the head of the bone may be sometimes felt, between the thighs –

+ can feel the head on the pubes –

the pelvis is straight – then measure from the anterior process to the knees, to ascertain the length of the limb – It is necessary to know if the pelvis be straight, before we can ascertain the distance of the luxation – If the joint be bruised the injured will be longest; When it is luxated upwards & backward, the toes turn inward, & if any attempt be made to turn them outward, it causes great pain – The patient cannot move the limb – this when all other symptoms are wanting, are sufficient to ascertain the luxation upward & backward – It is in no wise difficult in ordinary cases, to distinguish, between luxations, & fractures of the neck of the thigh bone – Of this I spoke when treating of fractures – When the bone is luxated no crepitus can be felt; & when the neck of the bone is fractured, the foot always turns to the outside – & is easily turned inward – But if the bone be luxated upward & backward, the foot cannot be turned outward at all, or not without great pain – When it is luxated downward & forward, it is lengthened, mostly about an inch; & the foot is turned outward, & turning it inward causes pain – The distance between the Trochanter major & the superior anterior spinous process is greater –

When the head of the bone is luxated forward & upward on the os pubis it is a little shorter – this is a very rare occurrence – only one case of this kind is mentioned by Desault, in which case the foot turned outward –

The same kind of treatment is required in all cases – i.e – Extension & counter extension – As the brim of the acetabulum

+ In this luxation, the gluteei are relaxed — but the obturators, quadratus femoris & gemini are in a state of extension

* tho' Desault & Boyer recommends the bandage for counter extension, to be passed over the tuberosity of the ischium of the opposite side; but I prefer the way I have mentioned, because it applies the force more in the direction of the limb —

+ both, which should be always made as near in the direction of the limb as possible —

* 5 or 6 men should then take hold of this & make the necessary extension, while at the same time the surgeon rotates the thigh, by taking hold of the leg, in order to dislodge the head of the bone & when this is done it is soon drawn into its place, which you will always be sensible of, by its making a snapping noise — if the extending force be not sufficient, pulleys then should be used — An advantage is also gained by fixing the pelvis, & pulling the thigh at right angles to the body, to dislodge the head of the bone — this is done by passing a strap around the thigh, over the surgeons shoulders, & at the same time pressing the knee on the ilium — the force may be increased by fixing the pelvis more firmly on a table, by a broad strap passing over the pelvis, & through a mortice in the table, on each side of the patient, & at the same time, adding a pulley to the strap over the shoulders of the surgeon — sometimes it is most convenient to place the patient on his back, when this is done, the strap for fixing the pelvis, should be fastened to the wall — In all cases we should rotate the thigh, by taking hold of the leg in order to dislodge the head of the bone as soon as the head is raised into its place — it may be easily perceived — So likewise when it is luxated downwards, inwards or forwards — By these means it is commonly easily replaced; but in cases of failure we should Bleed ad deliquium animi —

is large, an apparatus to dislodge the head of the bone, & pull it out (making at the same time extension & counter extension) at right angles with the body is required — On these general principles, luxations of the thigh are to be treated — In luxations of the head of the thigh bone, it is necessary to use considerable force for its reduction, & the best method for doing this, is by compound pullies, when they can be had — But it can be readily done by the assistance of men; & one advantage is, they can desist instantly when required — But in obstinate cases when great force is required, pullies must be used. —

I shall now give you the method of treatment — When it is luxated upward & backward, the patient is to be laid on his sound side, & the limb bent at the hip three, to relax the muscles + — A strap for the purpose of making the counter extension is to be passed under the Perineum (proved the subservicity of the Bellyin) between the scrotum & injured limb* — having some soft substance placed underneath — and fastened to a fixed point (a little above the patient) — Next two strong towels, secured by a roller, on each side of the thigh, just above the knee, to make the extension (or one towel on the outside might answer) + — (taking care to have the limb first covered with buckskin) — When this cannot be fixed above, in fat persons, it may be put just below the knee — but it is best to secure the extending power to the luxated bone* — a pully fixed to the towels can make extension with great force — During extension the Surgeon must rotate the bone, to detach its head — If this is found insufficient bleed ad deliquium animi — as the mutation in moving the limb throws the whole of the muscles into a violent & convulsive contraction — but this calms them — In this way I have reduced a luxation after 18 weeks — When the

+ you would suppose it would not be necessary to make extension & counter extension as the limb is now longer than the sound one, but it is essentially necessary, in order to dislodge the bone —

+ or a smooth round stick covered with some soft substance — I think will answer better as it will not bind the triceps so hard, which has a tendency to prevent the reduction when pressed by a roller strap —

Mr. Hey advises to place the patients perineum against a bed post, to make counter extension — I sometimes use an instrument in this shape ——⊲ to make the counter extension which answers very well —

+ In a patient whose hip joint, you saw me reduce the other day at the hospital with so much difficulty in the first attempt — his thigh was luxated backward & a little upward — & was very little shorter than the other — which made it difficult to tell whether it was a luxation or fracture of the neck of the bone — the difficulty here was owing to the smallness of the rent in the capsular ligament — the head passed directly backward thro the capsular ligament, which formed a complete button hole & the head of the bone was the button — now in making extension & counter extension, the greater was the difficulty — because the head was pulled against the side of the button hole, I say the after making extension, bleeding &c — I very easily reduced it myself — by bending the thigh on the pelvis at right angles — & then with one hand on the trochanter major pulled up as much as I could & at the same time turned the knee out — it popped in to place very easily —

Mr. Hey says there is an accident which sometimes happens at the knee joint in which the semilunar cartilages are displaced —

Relief may be given immediately — by taking hold of the ankle with one hand & placing the other on the upper & back part of the Tibia, & suddenly pushing the foot back at the same time pulling the upper part of the Tibia forward — we should place the patient on a table to do this —

When the head is luxated downwards & forward into the foramen ovale — or forward on the Pelvis, make the usual extension & counter extension in a direct line with the limb — and at the same time make extension & counter extension, at right angles with the thigh bone, which is absolutely necessary — To effect this, (the patient laying on a table), pass a strong towell round between the thighs, close to the perineum — The assistant is then to get on the table, & take the towel over his shoulders, & pull upwards to make the extension — While his knees placed on the christa of the Ilium, to make the counter extension — Meanwhile the Surgeon rotates the limb — If this be found ineffectual in drawing the head of the bone out of its situation, fix a pully to the towel, pass a strong bandage round the christa, & fasten it to a staple, to make the counter extension — this method succeeded in a case lately —

When the head of the bone is on the Pubis, the surgeon should bend the leg at the knee joint, & rotate it by placing one hand on the knee, & grasping with the other, while the extension is making —

Desault thought, that the contraction of the capsular ligament prevented reduction — But I believe the chief resistance in reducing these luxations, is the contraction of the muscles — for the same orrifice in the capsular ligament, which permitted the head of the bone to escape, would also be large enough to let it return — If the bone be not reduced it will form a new socket for itself — A proof that the head of the Femur will form a socket for itself out of the acetabulum, is instanced in a girl, who fell & hurt her thigh or rather

hip

Luxation of the patella – It may pass over the external condyl which is the way it is most commonly luxated or it may pass over the internal condyle & be on the inside of it – when on the external condyle or luxated externally the the external condyle is covered, while the internal may be felt smooth & uncovered – the patella may be felt out of its place – a good deal of pain – the patient cant bend the leg – It is reduced by extending the limb, to relax the muscles attached to it, after doing which it can be easily replaced – A young lady luxated her patella on the external condyle, in taking a step at dancing school – it was reduced in an instant by extending the leg – I would always advise the patient to be kept in bed for 2 or 3 weeks – to prevent inflammation of the joint –

+ The leg is bent outward, not quite at right angles with the thigh – you can feel the under part of the internal condyle –

+ for as soon as the extension & counterextension is left off – it immediately gets out of place again.

+ It may be luxated laterally on either side of the astragalus – or forward & backward – when forward, the foot is extended – the os calcis projects behind some distance – the patient cant move the foot – When luxated laterally & outward, which is most commonly the case, the ends of the Fibula are always broken – It is of great consequence, that the patient should not use his foot, untill the ligaments are completely united – as it might produce inflammation suppuration &c – I saw a case of a young lady who used her foot too soon – inflamation, suppuration took place an abscess was formed in the joint – caries of the bone &c – hectic fever came, & she would not let the foot be amputated & she died – the patient should be put in bed & the foot in a box & kept quiet 3 or 4 months –

hip — so that she kept her bed for several weeks — when the swelling which supervened, had subsided, the hip was found to be luxated — Sometime after she began to go about again; she fell & hurt her other hip — When she had got over this other fall, she found her legs, (contrary to what they had been) nearly of a length; & after she had acquired strength, she was able to walk on crutches, & gained strength in her hips every day — She was shortly after taken sick & died — The hips were examined & both were found luxated — new acetabula being formed on both sides, which no doubt would have done very well had she lived. — +

Luxation of the Knee joint —

This occurs very rarely — especially forward & backward — I never saw but two cases — & in both of these the Tibia was received on the external condyle — This is easily reduced — tho' not so easily kept in its situation when done — Desault's long splint answers very well for keeping the bones in their proper situation — After they are reduced, the patient should keep the limb in perfect quietude for 8 or 10 days, or rather 4 or 5 months, until the ruptured ligament has perfectly healed — The patient must be kept in bed —

Ankle joint —

I once saw a case of this kind, tho' they rarely happen — a lady with high healed shoes once was coming down stairs, & stepped too far — so that the heel of the shoe rested on the step — The weight of her body bending her backwards, pushed the Tibia forward off the astragalus on the instep — The consequence was, that the toes were kept extended — The Malleolus was likewise broken — I was

not

+ These occur most frequently at the wrist & ankle joints – A sprain is a forcible extension of either side of the capsular ligament, being partially ruptured by the head of the bone – It is almost a luxation, always attended with pain, & may be known from a luxation, by the joint preserving its motion – sometimes a large swelling & ecchymosis takes place immediately, owing to a rupture of the adjoining blood vessels –

+ If there is much swelling this remedy will not answer; but should have recourse to the usual ones for inflammation, such as bleeding &c – The action of cold water is not easily explained, but I suppose that, the vessels are small, & do not at first effuse all the blood, that is discharged afterwards – The effusion continuing seperates the ruptured parts & prevents an union, the cold stimulates the vessels to contract, which stopping the effusion, permits the parts to come in contact again – After the cold has been applied, the limb should be bound up in soft linnen, wet with vinegar or spirits, over which a roller should be passed, taking care not to have it too tight above the sprain – the wrist should be kept free from motion, by applying splints to it along the forearm – If pain occurs in a great degree, an opiate should be administered – all the usual remedies for inflammation in other parts should be employed – these may be continued for 10 days or 2 weeks – when this inflammation & pain goes off, the patient & his friends think nothing but weakness remains, but the ligament is ruptured; the patient walks about, inflammation returns & confinement is once more necessary –

+ These may be seated between the œsophagus & Trachea, or one side or before the latter –

not called, till swelling & inflammation had taken place; & could not ascertain exactly what was the matter — She was bled, & at the end of three days, when the swelling had subsided, I was able to ascertain the nature of it — It was reduced by an assistant holding down the Tibia, while I caught hold of the heel & toes, & pulled the foot forward — a splint was applied to the fractured malleolus —

For the treatment of Sprains, I refer you to Boyer — The joint should be immersed in cold water for some time, or cold water poured over it — 60 or 90 minutes at least After which, cloths wet with vinegar, should be applied for several days, & it should be kept perfectly at rest — for if the patient move about, he is sure to bring on inflammation, which upon resting will subside — & return again on motion, if used too soon — & if the patient continue to use it, suppuration & hectic may be the consequence, which in one case of a lady, actually occurred — Caries of the ends of the bones takes place, & amputation is necessary for the recovery of the patient. —

Of those Diseases, in which respiration and deglutition are affected, and in which Oesophogotomy or Laryngotomy are necessary —

It sometimes happens that it is necessary to open the windpipe, in order to open a passage for air into the lungs — Surgeons formerly cut into the Trachea for this purpose, but at present it is customary to introduce an elastic catheter — Many causes render this necessary — as the inflammatory complaints which are so common to our climate — Tumours pressing on the trachea — Foreign substances

getting

+ Bell mentions two cases of suffocation & death from this circumstance –

‡ From persons attempting to commit suicide – thereby rendering it necessary to keep the chin down, occasions respiration to be frequently difficult – if not impracticable –

‡ & I believe it is frequently performed, when the introduction of a catheter would answer every purpose –

* It should be one of the largest size used for the urethra & twice as long –

+ It can be introduced even in a swelling of the throat, but if this cannot be done by the mouth in consequence of a tumour, it may be easily passed by the nose, which answers perfectly well –

getting into the glottis or Trachea ± — Sometimes the tongue is so much swelled, as to impede deglutition from the use of mercury — In deep wounds of the throat, which divide the Trachea & Oesophagus, it was formerly thought necessary to perform these operations ± — but now it is found quite sufficient to introduce a flexible cathete after the manner of Desault * — The same observation holds good in cases of suspended Ovumation — The introduction of foreign substances causes violent coughing &c — & therefore, it might be supposed, that it would be improper to put in a cathete — Experience however teaches us that it does no harm — after the first irritation is over, it remains in without inconvenience —

When the tumour is in the mouth, and the Larynx is sound, a cathete should be passed into the Larynx ± ——— A young man having swallowed his money in a bag, in order to avoid being robbed — it stopped in the Pharynx, & pressed upon the Larynx in such a manner as to impede respiration almost entirely — Here the Surgeon performed an operation in order to extract it — when it might easily have been removed, by passing a flexible cathete into the Larynx — & while this remained, to have pulled out the bag with a pair of forceps — or it might have been pushed down into the stomach, where it would have done little or no harm ——— The advantages of this method, viz — the introduction of a cathete are various — 1st — It does not subject the patient, to the pain of an operation, nor to the inconvenience of the subsequent sore from tedious operations — In the operation, blood is apt to get into the lungs, & there cause great irritation, sometimes even stopping respiration entirely ——

With

+ There are instances tho' of their being lodged there several years

+ when there is any difficulty however, you can introduce a stilet with the cathe & by that means guide it into the Trachea

With respect to the time that a catheter may remain in these passages, we may be satisfied by the following case — A French soldier at Lyons attempted to commit suicide & in so doing, divided the Trachea & Oesophagus, without injuring the carotids — A flexible catheter remained in each of them, during the whole time of the cure, which was 6 or 8 weeks —— Sometimes however, an operation is necessary, when foreign substances in the Trachea cannot be coughed up — They sometimes get into the ventricles of the Glottis, in this situation, they produce less inconvenience, than in any other part of the Trachea — but only very small bodies can be lodged there + — When a substance gets into the trachea, & cannot be brought up again, it is necessary if the patient be not dead, to operate immediately — It is sometimes doubtful whether the substance be in the Trachea or Oesophagus — When by passing a catheter or probang into the Oesophagus, we may easily distinguish, as it is very easy to tell whether the catheter is in the Larynx or Oesophagus — If it be in the latter there is very little inconvenience to the patient, but if in the former there is a spasmodic elevation of the Larynx, a tickling sensation — the flame of a candle may be blown out, by holding it at the end of the catheter — The patient will be inclined to cough, & by introducing a little liquor, it will pass into the stomach very easily, if it be in the Oesophagus, but if the trachea, it will be immediately coughed up — +

When the catheter is introduced into the glottis, it should be tied to the patients night cap — & it has been advised to cover it with a piece of gauze, to keep out any particles that may be

floating

+ it should be frequently removed, cleaned & returned –

+ when it is necessary to prevent suffocation, or for the purpose of removing extraneous bodies, lodged in the ventricles of the glottis –

+ 2nd but little hæmorrhage takes place; 3d The larynx is more fixed than the trachea, the latter is moveable, as to endange in operating, the wounding of the surrounding soft parts – In one case an awkward operator actually divided one of the carotids, by the trachea slipping from unde the knife – Laryngotomy is much more easily & safely done

o 1st seat the patient on a chair, with his head bent back

+ with a head & holes to be fastened by –

+ with a pair of forceps & bistoury –

floating in the air — The orifice however is very small without it.

There are two places where Tracheotomy may be performed, viz. at the lower part of the Larynx, between the cricoid & Thyroid cartilages, & in the Trachea, between two of its cartilaginous rings. The latter may be divided longitudinally without danger — but the French Surgeons prefer the former, there being only skin between the Larynx & the external surface, while between the tracheal surface, there is much skin, cellular substance & also the Thyroid gland — Laryngotomy is therefore preferable to Tracheotomy —

The Operation for Laryngotomy — The Surgeon should sit upon a chair before the patient — He should feel for the space intervening between the Thyroid or cartilage Gland and Cricoid cartilages, 3/4 of an inch below the pomum adami, & directly over this part make a longitudinal incision of about an inch in length, extending from the former to the latter of these cartilages — This is to be made in the direction of the Trachea, & to penetrate thro' the skin, then wait until the haemorrhage is stopped, & then a transverse incision between these two cartilages, taking care to cut more near the cricoid — as a small artery passes sometimes across at the bottom of the Thyroid gland — If however this should be divided, it may be taken up — A silver tube or canula is to be inserted into the orifice, which should be taken out & cleansed two or three times a day — The orifice of it should be covered with a piece of gauze — If a foreign substance is to be extracted, the orifice in the Larynx may be dilated if necessary — or a pair of forceps may be

introduced

+ after extracting the extraneous body, if that was the cause of suffocation, the wound may be closed by adhesive plaister &c

+ P. in, fish bones &c. Emetics may be given when the substances are not sharp - also from cutting the oesophagus in attempting to commit suicide - this may be known, from the inability of the patient either to swallow or drink - the food coming out at the wound, when attempting to swallow it - also from abscesses in the neck - by locked jaw &c -

+ when some one of these means are not used - emaciation takes & the patient litterally speaking is starved to death - clysters alone are found insufficient to nourish the patient -

introduced, thro' the orifice, to extract the body — The cricoid cartilage may if circumstances will admit, be divided from the top, to the bottom; as it is found that large wounds heal as kindly as small ones — This operation is seldom necessary; but when the obstruction is of a spasmodic nature — I would prefer it to irritating the glottis, by endeavouring to pass a bougie, the consequences of which may be fatal —

When the Œsophagus is obstructed, the consequences are equally fatal, tho' not so immediately, & we must therefore, if possible relieve the patient — Obstructions of the Œsophagus may be produced by large and schirrous Tonsils — tumours on the neck; enlargements of the Tongue &c — in these cases there are two modes of supporting the patient — viz — by nutritive glysters — & nutritious substances introduced into the stomach — Mr. Hunter passed a small eel skin, & injected fluids thro' it — The flexible catheter or probang is however the best instrument — This must be passed into the nose, thro' which it easily passes into the Œsophagus — If there should be any difficulty in passing it, the finger or a double canula or ~~crooked~~ stilet may be used to direct it — a syringe of rich soup may be introduced into it, & if it has gone into the Larynx, it may be retracted, & put into the Œsophagus — Mr. Desault recommends this plan in all swellings of the throat, as in Quinzey &c —

J. Wilcox

+ the canal is lessened too, by a thickening of the coats.

Strictures of the Oesophagus –

This being a muscular canal, is sometimes affected spasmodically, & sometimes with permanent strictures – This must be fatal, unless it be relieved – for an account of it, I refer you to Mr. Home's work on the subject – The symptoms of a stricture in the Oesophagus, at first, is, a difficulty of swallowing – afterwards the patient can only take liquids into his stomach, & after this he can swallow nothing; & the canal is obliterated – I once saw a case, in which the canal was so obliterated, that only a very small probe could be passed thro' it ——— Mr. Home advises in the commencement of the disease, to use large waxed, bougies, & gradually to increase in size, & that the treatment be the same exactly, as in strictures of the urethra ——— Sometimes caustic is applied, & for this purpose a bougie without caustic is to be passed as far as the stricture; it should then be marked with the patients teeth, to ascertain how far it went down – Then introduce a bougie armed with caustic, as far as the stricture, & let it remain there for 30 seconds ~~half a day~~ – this may be repeated every day until the cure be effected ———

It is sometimes necessary to extract foreign substances from the oesophagus – A boy in eating a peach, after taking off the fleshy part of the fruit, swallowed the stone – this stuck fast about 3 or 4 inches down the oesophagus, being stopped by a spasm –

A Man who attended the Lecture room at London

+ sometimes sharp substances travel all over the body, producing adhesive inflammation as it goes along: & thus it may pass thro' the parietes of the abdomen without danger of the contents escaping —

+ they are small fleshy excrescences, of a pale red colour —

+ they may occur in the mouth, rectum, vagina &c —

London, & who frequently swallowed half crowns — in attempting to do it one day, the coin was stopped by a spasm — none of the Surgeons in London could extract it, & the man at length died —

We generally in the first place introduce a probang, that is a round piece of sponge, tied very fast, to the end of a piece of whale bone, or what I would prefer a large bougie — I have however, often succeeded, in removing the spasm & dislodging the body, by the following gargle — viz — Tart. Emetic grs ij in twelve table spoonsfull of water — The patient should gargle his throat with this, & if possible, even swallow some of it — It will destroy the spasm as soon as nausea is produced — — — Sometimes it is a sharp body, such as a needle, pin, or fishes bone, & sticks in the Tonsils — it should then be extracted with a pair of forceps — If it cannot be seen & can be felt, introduce a pair of curved forceps, & extract it — If however it stick so far down, that it cannot be felt, the patient should not despair, as it will at last be loosened by suppuration, & thrown out — The idea that sharp pointed bodies will wound the stomach or intestines, need not produce any alarm — I have never known it to be done, by even the sharpest bodies — —

Of Polypi — These commence with pain in the the part — small tumours then appear on the Ossa spongiosa or other parts of the nares — They are affected by the weather, being swelled in warm & damp weather, & contracted when dry & cold — at last the tumour prevents the

passage

+ sneezing occurs; the voice is considerably changed - persons in this situation are said to speak thro the nose - tho' litterally speaking it is erroneous - because no air passes thro the nose at all - swallowing is impeded - sometimes it is seen hanging pendulous in the posterior nares from the uvula -

+ head ache now comes on - sometimes hæmorhage ensues -

o stupor, coma &c ensue, & death closes the scene - this is the common progress of a Polypi when left to itself -

+ The mild they say should be extracted - but none should be suffered to remain if they can be brought away -

passage of air thro' the nostril, & assumes the shape of the parietes of that passage — It becomes visible at the anterior part of the nostril & also behind — Great inconvenience is experienced from it — The eyes effuse tears, from an obstruction of the Ductus ad nasum* — Sometimes there is no pain — The patient sleeps with his mouth open — The Eustachian tube being stopped, the hearing is affected — The shape of the face becomes changed, from one nostril being swelled*; the tumour ulcerates — the bone becomes carious, & emits a fœtid sanies — The teeth fall out, & a fungous shoots out, from their sockets —

The causes of Polypi are not well known — but they are said to be picking or blowing the nose — These however will not produce them —

There are said to be two kinds of them — viz — Mild* and Malignant, not to be touched — but this division is incorrect — for they are all mild at first, before they ulcerate —

There are three methods of extracting Polypi from the nose — 1st — Cutting them off — 2nd — Pulling them out — 3rd — Passing a wire, or ligature round the root of them in such a manner as to destroy the circulation, and thus cause the death of the Polypus — & its seperation by the absorbents —

They generally originate from the inferior turbinated bone, & sometimes extend backward, so that they may be seen posteriorly — But even if it does not, it is in the power of the Surgeon to catch hold of the Polypus, & pull it out — I prefer this method, because it tears away the root of the disease, & sometimes brings away part of the Turbinated bone,

and

+ But should it continue profuse, it may be stopped by stuffing the anterior & posterior nares full of Tow. – When the base is not broad & extensive, it may be always removed in this manner –

& this prevents the Polypus from being reproduced — The hæmorrhage is one reason why this method is not more generally used — it even goes so far as to amount to several ounces in a short time — this however should cause no alarm — for I have never seen it produce bad effects, & the wound is a lacerated one† —

The most expeditious method of removing the Polypus is cutting it off — & when it is attached by a narrow base, this method answers very well — but when the base is large it is not so eligible — Many incisions are then necessary, the first of them brings blood, & the patient cannot keep his mouth open, so long as the blood falls into the glottis, & occasions coughing —

The next method is by tying a ligature round the base — the Polypus then loses its life, & seperates in a few days — The time in which this takes place varies, from 3 to 12 days, during which time it is necessary to wear the canula — In order to tie on the wire, we employ a double canula, & a flexible silver wire passing thro' it — these are introduced into the nostrils, & by means of a false director pulled as fast as possible round the root of the Polypus — It will come off in a few days — but from the inconvenience of wearing the canula until this takes place, I have often, after it has remained for 2 or 3 days pulled off the Polypus, which may then be very easily done —

When the attachment is very broad, neither the first

nor

nor the last method is adviseable — but the tumours must be cut off, with a curved blunt pointed bistoury — After this it is necessary to stuff the nostril with lint, to prevent the Polypus from returning — If however it should still grow again, it may be cut off as fast as it re-appears, or else caustic should be applied — This must be held in a pair of forceps made for the purpose, & that part of it which is not intended to act upon the Polypus, should be covered with linen or dipped in melted wax — When the Polypus passes into the throat, the wire should be passed thro the nostrils, & down beyond the Polypus — Then with the director or finger, it should be pushed over the root of the tumour & fastened by means of the canula — Here the Polypus is several days in seperating, & when it does, it sometimes falls into the Pharynx, & produces an obstruction to respiration by pressing on the Larynx — It should therefore be secured if possible, with a ligature, & the Surgeon should with a hook, pull it once or twice a day, to see if it will seperate ——

We are sometimes under the necessity of opening an abscess in the Tonsils, or of scarifying those glands — This is best done with a lancet, secured in a canula — We may hold down the Tongue, & it is sometimes necessary to hold up a candle in the other hand in order to inspect the tonsil — The distance to which the point of the lancet should go, is to be regulated by a little screw —— ——

+ It is then said to be double –

+ when this is the case – it is often attended with inconveniences after birth – these are first – Liquids when taken into the mouth, pass into the nose, & thus sucking is rendered extremely difficult & in some cases altogether impossible; the voice is considerably modified &c –

+ & if any of the teeth project out any distance – they should be extracted –

+ The intention of this, is, to make a new wound of the divided portions of the lip, & thus fit them for uniting with each other, which they should be made to do by the 1st intention – When the hare-lip is double or has a portion hanging between the edges, only one side should be united at a time – It will be proper to approximate the edges of the hare lip as much as possible by means of adhesive plaster a week or two before the operation, that they may not be so much upon the stretch when it is performed –

Hare Lip – This

always appears in the upper lip, & commonly only in one place, but sometimes in two. It is generally natural to the patient, but is sometimes produced by a wound which has not united. In children who have the Hare Lip from nature, there is generally a fissure in the palate, which makes a communication between the mouth & the nostril. Sometimes a tooth, or part of the jaw bone protrudes.

The object in operating is, to cut off the edges of the fissure in the lip, & approximate them by means of the twisted suture. If there be a portion of projecting bone, it should be taken off with a pair of nippers. This operation should not be performed on a patient at a time that he has a cough, as it might tear out the suture. Some have objected to doing it on infants, but I have done it with perfect safety, when the patient was only two months old. The fissure after a time closes up, the lip pulling it gradually together.

Operation.

It has been proposed to cut off the fissure with a knife, but this cannot be properly done, there being nothing to direct the scalpel; & also as the lip cannot be properly supported to do it equally. Scissors answer extremely well, for this purpose. The idea of their producing a contusion of the parts they cut, & thus making them less fit to heal kindly, is totally unfounded. The Surgeon should cut off the edges of the fissure, taking care to cut out completely the angle which is formed above at their point of junction. Thus the piece cut out will be of the form of an inverted V. A pin

should

+ situated in the cellular substance round the rectum –

inflammation of the cellular substance of the part –

should then be passed thro' the upper part, & another thro' the lower, & retained by a ligature, passed round them in form of a figure 8 and tied — These pins should be made of silver, as this is not apt to rust — & as this metal is incapable of receiving a very fine point, they should have moveable steel points — After having applied the ligature, the steel points should be taken off — The Surgeon being cautious while he is taking them off, to secure the other end with a pair of forceps, as otherwise they might be drawn out — In this case it would be necessary to repeat the operation of putting them in — At the end of 4 or 5 days they should be taken out, tho' an union generally takes place in 2 days — The pins alone should be removed, the ligature which sticks to the lip, answers the purpose of adhesive plaister, being suffered to remain till it falls off spontaneously — If any thing should render the removal of the pins necessary before the lip has united, it should if possible, be brought together again, when granulations have formed, & before cicatrization has taken place, when the granulations will probably adhere together ——

Fistula in Ano — The disease so called is a deep cavernous ulcer, situated in the vicinity of the anus — It frequently consists of one, two, or more cells — & is caused by anything producing inflammation — If the parts be violently inflamed, and

+ a fluctuation of the part may be perceived on being pressed - which have the symptoms of a fistula - It begins with a dull pain in the part -

+ causing a suppression of urine & sometimes carries vertebræ -

& a great tumefaction ensue, it causes Dysuria, bearing down pain, & sometimes an entire suppression of urine — When it arrives at so great a height, it generally terminates in suppuration, forming an abscess, & making an opening either externally or into the rectum, or both — If it communicate externally alone, it is called an Incomplete Fistula — If it communicate externally & with the Rectum, it is called a Complete Fistula — but if with the Rectum alone, it is denominated a blind or Occult Fistula —

In order to examine well the state of the parts, the patient should lean on a table, & the Surgeon, having his finger well oiled, should introduce it into the Rectum, & insert a probe into the abscess — If he can feel the probe, the Fistula is complete — but if the Fistula be incomplete, he will not be able to feel the probe — Sometimes the abscess is small, resembling a bele, & is easily cured — Sometimes the side of the Rectum is seperated & detached from the buttocks, to a very great extent, rising even to the brim of the Pelvis — The causes which occasion these abscesses are such, as produce inflammation in any other part of the body — He should examine well, all cases of pain in the region of the anus; to discover whether or not it proceeds from piles, so that if it does not, means may be resorted to, to stop or avoid suppuration — This should be our first endeavour, & for this purpose, blood should be drawn according to the nature of the case, & the constitution of the patient, both general & local — Leeches, poultices of bread & milk mixed with lead water & the warm bath

should

+ The warm bath with anodyne glysters should then be used –

should be tried, & blisters on the tumour — Sometimes however these remedies fail, & the tumour increases to such a size, as to occasion a total suppression of urine — A catheter should then be introduced for the relief of the patient, & it may be left in, for a considerable time, without any bad consequences resulting from it — the catheter should be made of Gum Elastic, & it will then adapt itself to the shape of the part, & will be worn with much more ease than a silver one —

Sometimes inflammation comes on in the Buttocks, & a disposition to gangrene — On this subject I would advise you to read Mr. Pott — Tho from the success I have experienced in such cases, from the use of Blisters, I would recommend them to you —

If the Surgeon be called early, he may generally resolve the inflammation — but unfortunately, we seldom see such cases, till suppuration has taken place, & an opening made, when an operation is necessary to complete a cure — In all cases where there is a collection of matter, we should make an opening into the most prominent part, & not wait for it to open spontaneously — & in all cases we should pursue the antiphlogistic plan, until the inflammation subsides ——— I shall now proceed to mention the circumstances, which render it difficult to effect a cure without a surgical operation —

1st — When the Fistula is incomplete, the formation of pus, keeps its sides distended — & besides this, an ulceration

of

of its sides also prevent its healing — If the orifice be small, so that the matter cannot readily flow out, it collects in the cavity, & the granulations cannot come into contact —

2nd — The suppurating cavity is prevented from healing, by the external orifice closing up too soon, & preventing the discharge — & here the patient thinks himself getting well — but his hopes are soon blasted — for the matter has ceased to force its way out at the former opening — or else make a new one —

3rd — When the fistula is complete, the fæces & air pass thro' the opening in the side of the Rectum, & out at the external one, whenever the patient goes to stool — — — When the Fistula is occult, the matter makes its way into the Rectum, & is thus discharged — But the orifice will be generally obstructed by the fæces — Yet in most cases the orifice goes obliquely downward from the Rectum, & when the patient goes to stool, the fæces will completely close it up — But I have seen cases when the orifice opened upward, into the Rectum, & whenever the fæces were voided, they would get into the cavity of the abscess, & distend it very much, causing thereby great distress to the patient —

4th — When nature is unequal to the accomplishment of a cure, without the assistance of a Surgeon — as 1st — When the cavity is on one side of the Sphincter or rectum — here when the patient goes to stool, the contraction of that muscle, will draw the detached side from its natural situation, destroy all the newly formed granulations, & prevent a cure — 2nd — Another obstruction to the cure is,

that

& the rectum is seperated from the surrounding parts –

+ & by this means making it a simple wound – this incision is to be made as high up as the abscess extends –

that when the patient goes to stool, the gut is somewhat protruded, & any adhesions that may have taken place, during its contracted state, are destroyed — It is to this cause, that the small portion of blood is owing, which appears after stool —

5th — When from some cause, the healing of the Fistula has been prevented for some time, the parts become callous as was before explained — after it has healed & broken out several times —

6th — I injure treatment The practice of introducing substances into the abscess: as stuffing it full of lint, called by some surgeons dressing to the bottom!!! —

7th When the Fistula extends a considerable way into the Pelvis, & even to the upper part of the brim*, accompanied with caries — nature seldom effects a cure, & the art of even the best Surgeon, is often foiled —

8th — The general health of the patient — This should be attended to, as it will help greatly in the cure —

The operation for Fistula in Ano, is simple & consists in dividing the sphincter & detached gut* — because when the sphincter is cut, it cannot act so as to injure the granulations — The faeces too, when this is performed, can easily pass out without protruding the Rectum — For information on the particular manner of performing this operation, I would advise you to read Mr. Pott — my object has been to shew the principles, on which the healing or cure is effected —

I shall

+ but you are apt to wound your ~~hand~~ finger by the sharp point of the bistoury — To prevent this I use a thimble made of lead — the finger projects thro' it a little way, which is necessary in order to fell the point with the finger — then place it on the lead thimble & draw them out — this is necessary when the fistula is not complete, & when the bistoury is to be pushed thro' some substance, as the rectum —

+ when it is divided, put a piece of a lint along the whole track, to prevent its immediate adhesion again — this is not desirable to the bottom take notice —

+ but is necessary for the cap to rise up a little to get loose, & then there will be a portion that will not be divided — to remedy this, I have the guard to extend just to the point, fastened by a hinge, & when it is removed by touching the hinge it does not rise beyond the point of the bistoury to get loose —

I shall also make some remarks, upon the mode of acting in operating —— When the Fistula is complete, the patient is to be laid on a table, & the Surgeon, after oiling his finger, is to introduce it into the anus — Then put a blunt pointed bistoury thro' the fistulas cavity, until it comes in contact with the finger — Then removing the guard, draw away both finger & bistoury together, keeping their ends in contact — The bistoury divides all between the upper cavity, at which it is introduced into the rectum, & the external orifice of the rectum — It divides the sphincter & Rectum from its upper communication, to its extremity —— In the introduction of the Bistoury, the patient would feel considerable pain from the instrument, as it is constructed — To remedy this, I have a silver cap, which goes on the point of the bistoury, & extends along one side of the blade, which secures the cutting edge — When the bistoury is introduced, by pushing a little knob at the end of the cap, it falls off, leaving the edge exposed —

Another mode is, when the silver cap is not at hand, to place a piece of waxed linen on the edge; this would be long enough to reach from the point to the edge of the handle — so that, when the Bistoury is introduced, we can draw away the linen, & divide the parts — This mode answers extremely well — Sometimes the opening into the Rectum is so low down, that we can pass a director from the abscess, into the Rectum & out at the anus — In this case the parts may be divided with a scalpel —

But

+ But Desault recommend a wire to be passed up & round it, in the same manner as in removing a polypus from the nose or other parts – The manner of applying it is first to introduce a piece of wood into the rectum, then a canula into the fistula, & feel for the wood, with the end of the canula, when found, an instrument must be passed thro' the canula (a pricer) & if there be any substance intervening between the canula & wood, it must be pricked thro', the wood is then to be withdrawn – a wire is then to be introduced thro' the canula & a hook into the anus, & put over the end of the canula, then push the wire a little way thro' the end of the canula & then twist the hook to fasten the wire to it & bring it out – It will be proper before introducing the canula, to pass the wire into it, & mark its length, so that we may know when it gets to the end –

+ & It is sometimes difficult to distinguish them from scrophula –

+ sometimes they follows blows –

But when the Fistula, is so far up, that to divide it with a bistoury might endanger hæmorrhage, we should pass a ligature thro' it bring it out at the anus, & tye it, tho' not so tight as to occasion great pain — This will prevent hæmorrhage; & the part within the ligature will be divided by ulceration & absorption — The wound occasioned by the ligature will heal nearly as fast as it is made — so that by the time the ligature has cut thro' the wound will be nearly healed up — Sometimes however it will not heal quite so fast. —

Schirrus & Cancer —

A Schirrus is a hard insensible, circumscribed, tumour, without redness or inflammation, which when it ulcerates is called cance — It is a desirable thing to be able to distinguish what tumours will end in Cancers — but this cannot always be done — Cancers are sometimes caused by inflammation, the coagulating lymph, which is secreted, not being reabsorbed, forms a hard tumour — — Scrophulous people are very subject to such tumours, & they are frequently formed in the breasts of females. — When tumours formed here are of a doubtful nature, it is best to extirpate them — Sometimes there is no exciting cause of the disease. — Its progress is very different — Sometimes existing or laying dormant for 30 years, & sometimes making rapid progress, & ulcerating in two, three or 5 weeks after their first appearance — When a schirrus tumour is about to turn into

+ sometimes a fluctuation may be felt –

+ In the early stage

+ which are called by Adams, living Hydatids –

+ + when they should, or should not be extirpated –

o For on our decision, the life of our patient, + our reputation depends –

into a cancer, it is enlarged & hardened, painful & the edges become unequal & purple — at last it becomes surrounded by varicose veins spreading thro' it, & it is denominated a cancer — It is then attended with violent shooting pains — the lymphatic glands near it become contaminated & inflamed, & it often resembles the claws of a crab, hence its name — at length it becomes an open ulcer, discharging a fœtid sanies — This is the common course of a cancer —

Sometimes we meet with sores, resembling cancers in their symptoms, but are still different from them —

A true Schirrus should always be instantly extirpated, nothing being able to discuss it — The appearance of schirrus tumours on dissection, differs according to the stage at which it has been extracted — The centre is generally found hard & dense like cartilage — From this, white ligamentous fibres proceed to the circumference, & this is not well defined — As the tumour advances this structure becomes less evident, & when ulceration commences, it exhibits quite a different appearance — Sometimes cysts exist in them — When a tumour has been extirpated, & these appear, it would always, had it been allowed to remain proceeded to cancer —

We are however not able to tell what tumours will turn to cancers — Mr. Home confesses, that he has often extirpated scrophulous tumours for schirrus, & suffered cancerous ones to remain — Mr. Pearson says, it is often impossible to distinguish them — We should be extremely cautious in forming our opinions respecting the nature of a tumour, about which we are consulted —

authors

the ancients supposed it was, as well as some of the moderns – But we know the matter of cancer is frequently applied to parts, without producing any effect as to cancer – Mr. relates the case of himself to prove its contagious nature, he says he inhaled the vapour which arose from a cancer & a sloughing of the Tonsils took place, but this could not have been a cancer, for that disease has never been cured when it attacks these parts – which case his was easily cured – it might have been merely the consequence of inflammation – There is another case related of a surgeon in St Thomas's hospital in London, who tasted some of the matter of cancer, & ever after, had a disagreeable sensation in his mouth – he lingered & died in a few months, but without being affected with cancer – we know that the matter from a cancer in the mouth or on the tongue is often applied to the Tonsils, without having any effect on them – Gooch mentions many cases of cancer, which he supposed to have been communicated by contagion – but all of these, contrary to the nature of cancers, yielded to common applications –

Authors differ in their ideas respecting cancers returning after having been extracted — We are certainly often successful, but frequently too, are we disappointed — Mess.rs J. Hunter, Home and Clyne protest against the operation, after the disease has become capable of contaminating —

When we first perceive a tumour of this kind, it is best to attempt by bleeding, leeches, blisters, mercury & Cicuta to discuss it — If these fail the Surgeon should explain the case to the patient, & advise an operation —

There is a disease which affects the Ala of the nose, or Prince & the Glans penis, which considerably resembles cancer, but is not contaminating — It progresses however, & is a corroding sore — in cancer we find a hard edge formed —

Cancer is by some supposed to be contagious, but this point is not yet determined — Some say that they even emit a contaminating vapour — but their contagious nature is not sufficiently established — Mr. Pearson justly observes, that virulence & contagion are different things — The matter of a cancer may erode — but that of the new sore is not like the former — I will now make a few remarks on this disease — And

Mr. Cancer have been thought hereditary — but Mr. Home has proved them to be entirely local diseases, altho some constitutional peculiarities may predispose to it, & thus descend from father to son —

Cancers are common to every age, but are most so to people in advanced life — They are said to be most frequent

in

+ Dionis remarks, that out of the women, which he attended, that the menses was obstructed about the time, the disease occurred –

+ copious depletion will mostly succeede –

in women, at about the period when menstruation ceases, i.e. between 45 & 50 — Single women are said to be more liable to them — this however is not the case unless the menses be irregular —— They occur in almost every part of the body — but most frequently in the glands, & in the breasts of women — These however are subject to other diseases — Sometimes the whole substance of the mamma enlarges in size — is sore and painful, with heat & redness of the part — These symptoms are sometimes accompanied by a symptomatic fever — In these cases the antiphlogistic regimen both general & local should be resorted to, & will be generally found to succeed — If however it does not succeed, it exhibits no œdematous appearance —

The mamma is sometimes affected with a chronic deep seated inflammation, & tumour, with shooting pains, the skin is of its natural colour — If it suppurate it appears red & sore — This always occurs in young women, and without being assigned to any cause —

Sometimes the breast is affected with scrophulous tumours — These have been denominated spurious schirri, & in some instances, it is not easy to distinguish them from true Schirri — But in Scrophula the progress is more rapid than in Schirrus; & when there are many tumours, the skin only is affected, they are almost certainly scrophulous; because we very seldom find more than one schirrus — It is not however possible to pronounce with any certainty, & in all doubtful cases, it is better to extirpate —

Hydatids sometimes form in the tumour, & when they do

+ but caustic eats away indiscriminately, both diseased & sound parts –

+ 4th when the surrounding parts are not affected –

+ when the skin is sound a straight incision is to be made, but when any portion is diseased, it is to be removed by making two incisions in the direction of the pectoral muscle – If the Axillary glands are affected, the cellular substance is to be cut thro', & a ligature passed round above the glands, this may be done by pulling it down – when from any cause it cannot be removed we should apply the remedies, just mentioned –

do they should always be extracted — When the operation is performed, it should be done soon, because after the disease has acquired the power of contaminating, success is doubtful — Mr. Home & Mr. Clyne say, that when the axillary glands are affected, it is improper to operate — But I have several times performed the operation with success, when the axillary glands were affected; taking care to secure them with ligatures before cutting them off —

There are two means of removing cancers — viz — The knife & caustic — The former is preferable, because it will seperate all the diseased parts, & when it is employed, we can discriminate between the sound & the unsound parts — Sometimes however it is necessary to employ caustic — & in these cases, equal parts of white arsenic, & sulphur answer very well — When the knife is determined on it is necessary to attend to the following circumstances — 1st — The cancer should be so situated, that no vessel which it would be dangerous to wound can be injured — 2nd — The disease should have been occasioned by accident — 3rd — The health of the patient should be good — When the cancer cannot be removed, the bruised leaves of Hemlock — a carrot poultice, or an aqueous solution of opium, saturate are good applications — Internally opium, & Nightshade may be administered — Cancerous tumours sometimes occur on the neck, & when they are deep seated, there is considerable hazard in extirpating them —

But

+ It received its name, from its being aggravated by all medicines applied to it –

1 Home mentions two cases, in both of which, the patients were between 50 & 60 years of age –

2 the under lip most frequently affected –

3 It is often the source of great pain to the unfortunate sufferer, as much so, as any the human body is subject to –

4 Mr. Hunter once extirpated the whole of it, in a state of cancrum –

But sometimes Scrophulous tumours here are supposed to be cancerous — Mr. Pearson says that the glands under the jaw never become cancerous — unless when they are contaminated by a cancerous virus from some other situation —— The glands therefore (unless in the circumstances above mentioned) should not be extirpated —— The Parotid & Submaxillary glands are often truly cancerous ——

When cancers appear in the Face, they are called Noli me tangere — & some say that this is a distinct disease — but I have found it to resbl. other cancers — The actual cautery imitates them very much[1], & the knife is the best method of extirpating them ——.

The Tongue is sometimes affected with cancer[1] — The Lip frequently[2] — This sometimes commences like a small wart & sometimes the whole lip is altered, & becomes Schirrous — I have removed three of this kind —

The Eye is sometimes cancerous[3] — This may be extirpated, with a curved knife but it is a most terrible operation —

Many cases of Cancer of the Rectum have been mentioned — but it has never been cured — Opium in glysters & by the mouth are the only remedies — Mr. Home introduces pretty large pills of it —

The Tunica vaginalis is sometimes cancerous[4] — The Bladder also — This disease appears on the Penis; commencing by a small wart on the frænum — prepuce, or glans — this remains quiescent for years — but if irritated it ulcerates — the

+ the glands & prepuce are often affected by venereal warts, but they are distinguished according to Mr. by the warts being attended generally with either phymosis or paraphymosis ~

+ being hard, craggy, painful, shooting up the groin & back ~

the urethra becomes exposed, holes form in it, & the urine passes out producing great irritation —

The Glands in the Groin are sometimes cancerous; it is easy to distinguish these, from several affections of them —

The Uterus is often cancerous, & some authors advise extirpation — but this cannot be done — In the management of these, we must advise stimulating injections —

Schirrus Testicles are common; & for farther information respecting them; I refer you to Mr. Pott —

Extirpation of Cancerous Mamma —

Before the operation, it is necessary to examine the parts very accurately — We sometimes find the disease not extending farther than the breast — In some instances the skin over the diseased part is sound, while in others it is ulcerated & purple — Sometimes the disease is attached to the Pectoral muscle — & sometimes there is also a tumour in the axilla — It is therefore always necessary to examine the glands in that part — If they be found hardened, we should examine the cellular texture between them & the breast — The Surgeon should also examine whether the Lymphatics be hardened round the mamma; & he should extend his examination to the glands above the axilla & in the neck — When a Cancer in the Breast extends to the axilla, then there is little prospect of success — but sometimes the operation terminates happily —

When

+ it should be spread on linen in preference to leather - as the matter is apt to injure the leather & prevent it from keeping the parts properly together -

When the skin is sound, & its colour natural, it is only necessary to make an incision over the tumour to expose & dissect it out — first seperating the skin from the tumour, then making a circular incision round it down to the Pectoral muscle, & dissecting it from that — The Surgeon should attend to the wounded arteries at the moment of their division — If an artery be not large he may press upon it — but if it be large he should stop & take it up — Afterwards the sides of the wound are to be brought together, & retained with adhesive plaister — This is a simple case, but when the Lymphatic glands in the axilla are hardened, they must be extirpated — & they sometimes extend very high up —

Operation — If the skin be sound only a simple incision is necessary — but if it be pimple or ulcerated, make two semilunar incisions, meeting together at their extremities, & including all the unsound skin; which must be removed however large it may be — The Surgeon should take care to cut it in the directions of the Fibres of the Pectoral muscle —

If any tumours are to be removed from the axilla — seat the patient on a chair before the light, & have the hair shaved from the axilla — Commence the incision over the tumour in the axilla; & make an other incision from just below the axilla to meet the former one — Dissect off the tumour from the Pectoral muscle, & if it adhere to any

portion

+ but when it extends thro' the abdominal ring - the operation should not be performed -

portion of the muscle, cut off that part of the muscle — Seperate the tumour, first at the lower part, leaving it attached to the upper part, so that its weight may draw down the tumours in the axilla — Expose the surface of the axillary tumour, & that of the hardened Lymphatics, & dissect them from the Pectoral muscle. When the parts are exposed as high up as the axillary tumours, pull them down, then feeling above them; they must not be seperated with a knife, until after tying the part to which they are attached, with a ligature, in order to avoid hæmorrhage — They may then be cut off below the ligature — this will seperate in 10 or 12 days — Bring the sides of the wound together with adhesive plaster — There is another method of extirpating these tumours — viz — by caustic — but this has fallen into disuse — with the knife the Surgeon may distinguish the sound parts from those which are diseased — Besides which the caustic gives much more pain than the knife — But if caustic, use arsenic & sulphur — corrosive sublimate or the actual cautery —

Extirpation of Schirrous Testicles.

Before the operation, examine that part of the scrotum, covering the diseased part, to see whether or not it be sound — if not it must be removed — Examine also the spermatic chord, for if it be hardened, or enlarged, it must be divided above where it is thus affected — Shave the Pubis & make an incision,

con-

+ some surgeons advise the knot of the ligature on the chord to be tied in a bow, that the arteries may be afterwards taken up, by themselves - but this is useless & should not be done - but tie -

+ & thereby weaken the patient very much - they always appear in the form of periodical tumefactions -

+ sometimes there is a protusion of the gut of a foot or more - this I have always cured by attending to the diet of the patient - the best of which is, rye mush, the patient can then go to stool without straining, & when strictly adhered to the patient soon gets well -

+ also purges & cold water -

commencing about an inch above the hardened part of the spermatic chord, & continuing down to the bottom — carry the incision fully into the substance of the tumour, in order to ascertain that the Testicle is schirrous — Then dissect the skin off from the tumour, & also dissect up the spermatic chord to above the hardened part — seperate the vas Deferens from the chord, & pass a ligature round the rest of the chord half an inch above the hardened part — After this is tied — cut off the spermatic chord, & Testicle approximate the sides of the wound by two or three stiches +

Haemorrhoidal Tumours —

Sometimes we find large tumours on the anus — sometimes near that part on the verge, & sometimes within the Rectum — These sometimes bleed profusely + — They are liable to inflammation, & give pain — When they are found within the Rectum, they are protruded on going to stool, & occasion a prolapsus ani ± Sometimes they produce dyspepsia, & in some instances they press on the membranous part of the urethra, & cause a suppression of urine — I once knew a patient in whom a tumour of this kind produced a numbness of the thigh, which was removed by taking off the tumour —

Leeches & castor oil, relieve the patient — as does also mild unctuous ointment of Tallow & mutton suet, & a poultice with laudanum + — These however are only palliatives, & therefore

it

& or to lay hold of & secure it by a double canula & were—

it is often necessary to remove the diseased part — To effect this there are two methods — viz — By ligature and incision — The latter however is dangerous, as there is commonly a considerable hæmorrhage — so that the former method is preferable — When the basis of the tumour is small, it is easy to tie around it a common ligature — or what is still better, a piece of flat tape, without wax, or a narrow flat bobbin — This latter is not so apt to slip — but when the tumour has a broad basis, it is necessary to use a needle with a double ligature — This needle should be passed in the base of the tumour, about the middle, & one ligature tied on each side of it — By this means the circulation will be stopped & the Tumour will come off — This sometimes takes place in about four days — & sometimes it requires 10 or 12 days — The patient suffers no pain after the operation —— When the tumour is situated within the rectum, give a purge, & be ready, after stool to tie a ligature round it, as it will then be protruded —

Paracentisis Abdominis —

Water sometimes exists in the cavity of the abdomen, forming ascites — When the distention is great & medical means can afford no relief, it becomes necessary to make an artificial opening for it —— This is generally done between the anterior superior spinous process & the umbilicus — & sometimes between the umbilicus & symphysis pubis — But it is said that

+ but from my own experience this is not the case – wounds in these parts heal as soon as in any other –

+ In the Linea alba – two inches below the umbilicus –

± otherwise its fundus may be injured –

that when this is done, the wound made in the tendon does not heal so soon as it would otherwise do — When the operation is performed in the first mentioned place, the Epigastric artery is sometimes wounded, the consequence of which is often a fatal hæmorrhage ——— I operate between the umbilicus & os Pubis — It is necessary in doing so to have the Bladder empty — If in operating between the umbilicus & the superior spinous process the Epigastric Artery shld. be wounded, the water comes out bloody — If this be done the artery may be taken up ——— Before perforating the parietes of the abdomen, it is proper to ascertain, that there is actually water in the Peritoneum — For this purpose, the Surgeon should place one of his hands on one side of the patients abdomen & pat on the other, that he may feel the fluctuation — Sometimes however after feeling the fluctuation, no water comes thro' the ~~abdomen~~ wound — I once performed the operation on a patient from whom no water came — after 2 or 3 days the patient died from peritoneal inflammation, & the fluid contained in the cavity of the abdomen was found to be jelly ——— In women it is very necessary to distinguish between Dropsy & Pregnancy — A Play actress, once called on a surgeon in England, to consult him on what she considered a Dropsical affection — He punctured the abdomen, but was surprized, to find that no water came out thro' the canula — In a short time after the woman died,

and

+ to afford an exit for the water & prevent an effusion into the cellular substance
If the canula does not fill the orrifice made by the lancet, so as to fill up every part
it is to be remedied by making a kind of shoulder to the canula, with linnen previously
dipped in wax –

+ The internal one having one end smooth & pierced with holes – the external one is
to be first introduced, & nearly all the water suffered to flow out – The contents of the
abdomen, are then apt to fall against & stop the orrifice of the canula – to obviate this in-
convenience, I then introduce the small one, within the large one –

+ near the edge – the water will then flow out without incommoding the patient –
In using the Trocher, the stillette is to be entered, with one push & then with-
-drawn –

+ It is called morbid dilitation, because there is at the same time, disease in the
internal coat, which is probably the cause of it

+ & the sac is formed by condensed cellular substance –

and was found to have been pregnant — The trocha had punctured the uterus & entered the hip of the Foetus —

The operation is a simple one, & the instrument commonly employed to perform it with, is a trocha — A triangular pointed instrument, with a canula — The canula should fit the trocha exactly — of late the lancet pointed trocha has been employed — but if this be used the point should be exceedingly sharp — Both of these instruments go in with more difficulty than a common lancet — I perforate the abdomen with a lancet, in my right hand, & introduce a canula with my left — I like the female catheter very well — I sometimes use a double canula —

Some Surgeons seat the patient — but I place him on the side of the bed — An assistant presses on his belly to prevent his becoming faint — After the operation, bring the sides of the wound into contact, & keep them so with adhesive plaster — & tie a towel round the abdomen, so as to press upon it — Have wine at hand, in case the patient should be faint —

Aneurisms —

An Aneurism is a morbid dilitation of the heart & arteries — they are of two kinds — True & False — A true aneurism implies the dilitation of an artery — A false aneurism is produced by a wound in an artery — Sometimes an artery is disposed to dilate in several parts, but often in only one — This is generally owing to an increased momentum of contraction

+ or the disproportion of the coats of an artery, & the momentum of the blood in it.

+ It has been supposed that violent strains lay the foundation for them.

+ this experiment was objected too, because closing the wound as Mr. Hunter did the parts might prevent dilitation. but Mr. Home tried the same experiment & left the artery bare, after dissecting away all the coats but the inner one & no dilation took place.

+ & takes place without any known cause.

+ & the internal coat sometimes sloughs off at this part.

of the heart ± ——— With respect to remote causes — Drinking is said to be one — Contusions are also said to produce them ± — The partial division of an artery, the going thro' the outer coat, but not the inner, is said to be a cause of aneurism — To ascertain this Mr. Hunter laid bare the carotid artery of a Dog — he then dissected among the coats one after another until he came to the inner one — The wound was then tied up, & the Dog left to himself — About 3 weeks after he was killed & the artery found to be of the natural size, not being dilated in any wise — ± Mr. Home has tried the same experiment — At any rate, of this cause does produce aneurism, it is very seldom — The general cause is, a diseased state of the artery, which renders it too weak to resist the impetus of the blood ± — An aneurism is not simply a dilitation of an artery, but the internal coat is rough & diseased — & sometimes ossification takes place ± ——— Aneurisms occur but seldom in women, & young people — I have however seen several cases of aneurisms in women —

It is of the greatest importance to distinguish aneurisms from tumours of a different nature; this difference is sometimes obscure & not perceived; especially in old aneurisms — In recent ones, the pulsation can always be felt by pressure — but some time after the swelling & tension is much increased, & the parts are put on the stretch, a coagulum is formed —

The

+ but in Anemone, it is felt in every part seperately – tho' not so when congula have formed –

The pulsation becomes obstructed, because the strokes of the heart has to be continued to the finger thro' the coagulum — The skin covering the tumour continues of its natural colour, until it is near opening — In recent cases we may remove the blood, & swelling of course by making pressure for sometime upon the part; but after this is discontinued it returns; & we can often hear & feel it do this ——— A tumour may form on an artery & be so situated, as to partake of the pulsation; & in that respect it resembles aneurism — but we can place our finger behind it & push it off from over the artery, & the pulsation will cease immediately — Even when we cannot raise the tumour from off the artery, we can distinguish it from an aneurism by the particular pulsation — for when a tumour is situated over an artery, we are sensible of the whole body moving in —

When an aneurism takes place within the thorax, there is a palpitation of the heart, an irregular pulse, & difficulty of breathing — When an aneurism has commenced its progress, it is not so rapid as we might suppose; because the impetus of the blood as the artery dilates is distributed over a large surface — It does not advance all at once, but increases gradually; coagula forming, as the sac distends; which as it advances contracts adhesions to the parts around it —

When a large aneurism bursts, it sometimes occasions death, by the loss of blood — Sometimes there is a partial dilata-

tion

+ & the sack is sometimes seated more to one side of the artery, than the other, owing to the unequal dilitation of the sides — but this is not always the case —

+ It has been advised to cure popliteal aneurism by pressure on the artery above the knee — Dr. Physic proposes to make pressure on the groin, with a kind of button & increasing it very gradually, it might probably effect a cure —

+ It is called Popliteal aneurism, when in this place —

dilitation of the coats of the aneurismal sac; but they are generally quite as thick, as the coats of the artery — That part of the artery which is more remote from the heart than the aneurismal sac, becomes smaller than it was before — owing to the coagulation of blood in the sac, obstructing the passage of blood thro' it — The pressure which the aneurism occasions, frequently causes the absorption of the surrounding parts; I have even seen a portion of the ribs absorbed — In this manner it goes on, till it arrives at the skin, when it bursts, & the patient often dies from the sudden gush of blood — — — — In an aneurismal sac, there will be often found, a number of coagula or concentric lamina —

Medical treatment will not effect a cure in aneurism, but it is proper to diminish the quantity of blood in the arteries; & for this purpose it is proper to recommend rest, low diet &c to the patient, as they will retard the progress of the disease — — — When it is on an extremity, bandages are advised, & are said to have effected some cures — The most common situation for an aneurism on the extremity is the ham — It commences with a small tumour & fulness, which has a pulsation, & is at first attended with no pain — afterwards however there is considerable pain — The leg swells just below the tumour — The pain which the aneurism produces, is owing to its pressing on the nerves — The leg is swolen from pressure on the lymphatics & veins — If no relief be afforded, mortification ensues, & a great hæmorrhage —

The

The parts pressed upon are absorbed, & the aneurism communicates with the knee joint — The surest method of curing an aneurism is to take up the artery — The manner of doing this was formerly, to put a Tourniquet on the thigh above the aneurism, & cut into the tumour; dissect out the artery, to put a ligature both above & below the aneurismal sac — But after the ligatures sloughed off, there generally came on a great haemorrhage — This operation being unsuccessful, they commonly advised amputation of the thigh — Mr. Hunter however by examination discovered, that the internal coat of the artery was in such cases diseased, & therefore incapable of adhering together — As the ligatures in the ancient mode of operating were applied on the diseased parts, this discovery of his explains why it was unsuccessful — Mr. Hunter also found that this disease of the internal coat, did not reach up as far as the middle of the thigh — he therefore cut down to the trunk of the artery at the middle of the thigh & took it up — leaving it to the anastomosing branches to carry on the circulation — It is unnecessary to perform any operation on the aneurismal sac — The sac will sometimes become changed into the condition of an abscess — suppurating & by this process healing —

Operation for Popliteal aneurism —

Lay the patient on the table, & apply a Tourniquet loosely over the thigh — have at hand a blunt silver needle, or a bended bodkin with a

° we should have at hand then — a Tourniquet — scalpel, an armed needle — adhesive plaister; compress, bandage &c —

+ an assistant should also be ready to press on the inguinal artery —

* Bend the leg a little with the knee turned out — & shave the hair from the thigh & then

* but when the patient is laying down it will be the under edge —

+ This is necessary, for there have been instances of mistakes being made, & the wrong artery being taken up —

+ The ligatures are to be seperated one inch from each other — then first tie the upper & then the under ligature & divide the artery with a blunt pointed bistoury between them — taking care not to include any other vessel in the ligature —

with a ligature in it. It is proper to apply a Tourniquet over the thigh in case of hæmorrhage from a wound of the artery — It should however be left loose, because it is best to have the artery pulsating. — Make an incision on the inside of the thigh of about four inches in length, in the direction of the fibres of the sartorius muscle, & expose the upper & inner edges of that muscle, at about the middle distance between its origin & insertion — Then dissect away the integuments from the above mentioned edge of the muscle, & after getting it completely exposed, it is best to pull the muscle on one side, & we may then feel the pulsation of the artery, just before it perforates the triceps muscle & is covered by a thin fascia — Cut thro' that fascia, & pass a ligature with the curved & blunt pointed needle, taking it as much as possible by itself — Then cut off the needle, & the ligature being double, we will have two ligatures — The Surgeon should then apply his finger to the ham, & feel the artery pulsating there — He should then press one of the ligature, & if it enclose the Femoral artery, the pulsation will by this means be stopped. — If the Surgeon be satisfied, that the ligature includes the artery and any of its branches he may tie it — & this is mostly sufficient — But it has been supposed by Mr. Alexander that the vessel is more at ease, if two ligatures be used, & it divided between them. — Sometimes often this is done, the ligature slips off from the end of the divided vessel, it is therefore necessary to expose the artery a little higher up, & tie one ligature above, & the other below it —

The

+ Mr. Abernethy first proposed this method of tying the artery in two places & dividing it –

+ in order to heal it by the 1st intention, for if this is not done, inflammation will take place up & down the direction of the artery, & suppuration ensue, endangering the life of the patient – if however an abscess should form, it ought to be opened & not left to itself as it might make an opening into the cavity of the knee –

+ a swelling takes place, which occupies the whole fold of the arm, it is hard & without pulsation –

+ this is the encysted, & the sac is formed by the condensation of the cellular substance –

° which is the varicose – this is caused by the blood flowing immediately from the artery into the vein – the coats of which being much weaker than the artery, becomes distended & a tumour is formed – a thrilling sensation is perceptible –

+ This is called Echymosis –

8 & 9 [illegible] thrilling sensation – the [illegible] is interrupted

+ The needle must be put on the end of one of the ligatures, and carried thro' the artery below where it was tied — & again tied — thus effectually preventing it from slipping — The same thing may be done with the other ligature, after which the artery may be cut — After this bring together the sides of the wound, & retain them so by means of adhesive plaister + — At the end of 8 or 10 days the ligatures will slough off —

Aneurisms sometimes occur from bleeding from the basilic vein in the arm +; & they appear in three forms —

1st — When there is swelling just above the elbow, which is hard & destitute of pulsation + —

2nd — When the blood flows directly from the artery to the vein °

3rd — When the blood flows out into the cellular membrane, between the artery & vein, & forms there a aneurismal sac — & from thence goes thro' the cellular substance + In these cases, the only method to effect a cure, is to cut down to the artery, & tie it up, both above & below the ~~artery~~ orifice — Apply a Tourniquet, tightly over the arm above the elbow — then make an incision into the tumour & scoop out the blood — If you do not find the artery loosen the Tourniquet a little — by this means you will be able to find it — In this species which is called varicose aneurism, we may feel over the vein, for the orifice leading into the artery — By making pressure over it the orifice will sometimes unite — This only answers when the blood flows directly from the

+ & frequently no inconvenience results from this state of the vein, only the arm is disfigured - on feeling the veins, they are found uncommonly full -

* I think it may be cured, by stopping the communication between the artery & vein - without taking up the artery -

+ But the Trephine should not be used, unless symptoms of a compressed brain occur, because it would occasion considerable pain & exfoliation of the bone, by this means a suppurative sore would be formed, & granulations would have to rise from the bone, before it could be cured - The applications in these cases, should be cold water, vinegar & water &c. to the part, & a low diet to prevent inflammation of the brain -

Incised wounds of the scalp should be treated as they are in any other part of the body - so also, of contused, but in these last, the scalp is sometimes torn off from the cranium, in which case, the old surgeons advise it to be cut off, fearing as they said, an abscess might be formed underneath, & occasion an exfoliation of the bone, but this practice is improper - Instead therefore of cutting it away, we should clean it of hair, & all other extraneous bodies, place & confine the parts with adhesive plaster or sutures - when the latter is used the parts should not be brought into close contact, as it might inflame, swell, cause great pain & produce delirium; by the tension, from not attending to this, I have known sloughing of the parts take place - If sutures are used, the ligatures is to be tied in a bow knot, so that we may slacken, if necessary, should tension occur - If an abscess as the old surgeons feared, should be formed, they may be easily opened, & if exfoliation of the bone should take place, the part can be opened & the pieces should be removed as soon as they become loose - when the scalp is not removed, the head is still posed of its natural covering, an occurence always desirable - If suppuration must take place - a Bread & milk poultice is the best application -

In some instances a considerable degree of inflammation takes place, as it also does, after punctured wounds of the scalp - a fever sometimes comes on, attended with the appearance of Erysipelas, extending over the head & neck, the fever is also frequently attended with delirium - In these cases we sometimes stop the progress & symptoms, & cure the disease by v. S. & the antiphlogistic regimen, if the above should fail, we must then shave the head, & apply a Blister over the whole of it; generally in these cases after suppuration has taken place the -

see next page

the artery into the vein — & this species does not often require an operation, as I have known it to continue for years — But if there be an aneurismal sac, between the artery & vein, it requires an operation — The parts which are pressed on may be absorbed, & thus the cavity of the aneurismal sac, made to communicate with the joint, & thus to render an amputation necessary —

Injuries of the Head —

Injuries of the head may be divided into external & internal — External, as they affect the Scalp & integuments — Internal, as they affect the Brain, its appendages, membranes &c —

They are of several kinds — as 1st — Contusion — 2nd — Punctures — 3rd — Inflammation of the Brain & its membranes — and 4th — Concussions — I shall begin with the Scalp — The injuries done to the Scalp are several —

1st — Contusions — When contusions of the Scalp occur, in which there is a rupture of the vessels, they pour out their fluids forming a tumour & swelling, which has a pappy feel — around this tumour there are hard edges, & it imparts a sensation to the fingers, as if the bone was broken, & which often misleads the inexperienced who are not aware of it —

2nd — In Punctured wounds of the Scalp, the patients often affected with great pain, inducing the Surgeon frequently to make

incisions

the patient recovers – when delirium occurs it is sometimes difficult to tell, whether it proceeds from the external injury, or whether the cause be within the cranium – I once saw a surg. con much perplexed in this way, some were for opening the scalp & examining the skull, to see if any portion was depressed – Generally on examination of the parts, if they appear much inflamed, we may consider the cause seated externally, & of course not attempt relief to the patient, by opening the skull –

+ sometimes however it is not absorbed in a few days – then it may be let out by a puncture, in preference to dilating it, as it would then be a large suppurating sore –

incisions thro' the Scalp — When to their great surprize, they find the bone in a sound state; & thus produce a suppurating & disagreeable sore, & perhaps an exfoliation of the bone —

The best treatment is rags wet with vinegar, & applied to the affected part — in a few days the extravasated blood will be absorbed — If the Inflammation extend to the pericranium, it becomes necessary to dilate the wound — In this case the patient becomes feverish — I have seen inflammation of it occur in every kind of wounds, except incised wounds — It has been supposed that it occasioned inflammation of the brain, & therefore trepanning has been advised — but I believe it does not occur, when the injury is on the outside — for it is hardly possible that two sides of a cavity will become so violently inflamed at the same time — For instance, in violent inflammation of the fungous coat of the Stomach, the Peritoneal coat is hardly ever inflamed — and vice versa — In peritoneal inflammation, the external parts are seldom affected &c —

Besides these affections, there is another effect of injuries of the Scalp, which is a severe fixed pain, in the part stricken — It takes place from the time of the accident — I have seen contusions of the scalp which occasioned great pain in the part & continued a long time — the first case I ever saw, was that of a lady who had received an injury of the scalp upon the parietal bone, from the falling of a sash, which gave her great pain — the inflammation subsided in a few days, but the pain continued — she had used evacuants without any effect —

upon

+ Another case of a young lady who was thrown from a chair, & in a slight degree injured her head, but was cured without any ill consequences – sometime after she fell again on the same part, violent pain ensued, which was not relieved by depletion both general & local, different forms of mercury – Bark & opium – Fowlers mineral solution & other remedies were employed without success – but was immediately relieved by a crucial incision – The pain was absent about a month, at which time the incision was healing up, the pain then recurred again – I then attempted to prevent the parts from healing, by ointment containing cantharides, but this had no effect in stopping the pain, I then applied caustic, so as to form an issue of the part, but this was likewise of no avail – after the pain had thus continued for 12 months, with only one months interval of ease, she went into the country & returned again in about 6 months in a great measure relieved – It was not completely cured, because when cured her health was impaired by cold or otherwise – But an incision is not always attended with such happy effects, altho it was in the two cases I have mentioned & in another I shall mention (see next page) —

+ I mention these cases, because, tho the pain be distressing, we may encourage our patient with hopes, from time & country life – the good effects of which I have mentioned –

+ stupor – drowsiness – diminution or loss of sight – loss of voluntary motions & sometimes haemorrhage from the ears & nose – some say a dilitation of the pupils, is always an unerring sign of compression of the brain but this is not the case for I have seen the eyes in some cases natural, in some preternaturally contracted & in others dilated

+ a fractured portion of the bone being driven in on the brain –

Upon first examining the case, 5 months after the accident, I thought the bone was fractured — but upon further examination, it was found to be only bruised — I proposed an incision, which was made thro' the Scalp — the pain immediately ceased & never after returned + —— Some cases of this kind have resisted my treatment — & subsided only by returning to the country, & remaing there for some time —— Another instance of a young man who had received an injury of the scalp on the Parietal bone on one side, & at the same time received a blow on the other — great pain followed it, which still increased, & by the second day the pain had become so great, that his freinds had to hold his head, to prevent the ordinary sounds of the house, made by walking across the floors, exciting convulsions —— Evacuants were used, but to no effect — An incision was made thro' the scalp in the contused wound, by which he was much relieved; but the pain returning in half an hour, on the other side — the bruise on that side was also laid open in the same way, when the pain ceased, & never returned again +

Next of the Brain and Membranes — & 1st — of Compression — When injuries of the head occasion compression of the brain — Coma — Sickness at stomach — vomiting + involuntary discharge of urine & faces takes place —— The causes which produce this are of two kinds —— 1st — Contusions of the Scull + —— And 2nd — Compression, from the effusion of blood from a ruptured vessel — and

+ that is – between the cranium & dura matter, or between the dura matter & pia matter –

+ The symptoms of compressed Brain resembles a deep sleep or a fit of intoxication – if the pulse is regular, breathing as usual – we should wait a few hours – here I would warn you against being deceived from these circumstances – you may ascertain whether it is owing to a drunken fit, by smelling his breath – or by pouring a stream of cold water on the patients upper lip, which will rouse him from his drunkent fit –

and other fluids, collected inside the cranium, either between the membranes & scull — or in the substance of the brain itself — or in the Ventricles — & this may happen, without a fracture of the cranium, or with it —— Fractures of the cranium occur sometimes without these symptoms, even when the bone is indented — I have seen slight depressions of the cranium, without any of the usual symptoms of compressed brain — An instance of this kind was in a fracture of the os Frontis so that the little finger might lay in the indentation; & yet no symptom of injury of the Brain existed — But in all these cases which I have seen, the injury was received just above the Frontal sinuses —

When no symptom of compressed brain appears, the scalp should not be divided — but when symptoms of compression occur, make an incision thro' the scalp, so that you may examine the bone, if the incision be not already sufficient, & relieve the compression with a Trepkine — It has been customary to seperate a portion of the scalp — I myself, once cut off about one fourth of it, under the direction of an old surgeon, in a London Hospital — but this is always cruel since it is of no use — A simple or crucial incision of the scalp is always sufficient to examine the state of the bone — If a fracture be found to exist, it is safer to make a perforation thro' the bone, to relieve the Dura matter —

In compression of the Brain, arising from an effusion of some of the vessels, the symptoms of compression do not always

occur

+ whereas, when these symptoms occur in consequence of a depressed portion of bone - they are immediate after the accident - which distinguishes it from compression by effusion -

+ sometimes a piece of bone may be depressed, without inducing any of the symptoms, I have mentioned - this is difficult to account for - But in one which I have seen, it was not pressed in upon the brain, but into the longitudinal sinus -

+ not generally before the 10th day, which distinguishes it from compression -

+ sometimes these symptoms do not take place, untill 6 months has elapsed - & even 12 months
* the parts are pulpy & soft -

occur directly — because the effusion does not accumulate soon enough to produce it immediately, sometimes several days elapses — + — I was once called to visit a boy, who had received a blow on the forehead, with a stone thrown across the street — The bone was fractured & a little depressed — the pain was not so great at first, but that he went home & gave a history of the accident — but when I arrived, he had ~~been~~ was severely attacked, & fell from his chair, supposed to be dead — his pulse was feeble, and his extremities were cold — The operation for Trepanning was performed, & blood evacuated from beneath the cranium, which had occasioned the compression & he was immediately relieved +

3rd — The next injuries I shall mention, are such as produce <u>inflammation</u> of the brain, or its membranes — the inflammation does not come on for sometime after the accident + —

Symptoms are — The patient cannot sleep — constant watchfulness — pulse frequent, hard & tense, hot skin — the face becomes turgid & flushed — a sense of tightness, as if a chord were tied round the Brain — thirst — suffusion of the Eyes — delirium — nausea, rigor & vomiting — convulsions & coma — + if these symptoms occur for some days without any abatement, or increase; & if they are occasioned by contusions of the Scalp — a free incision should be made to the bone, to examine the state of the parts — If the inflammation within the cranium have proceeded on to suppuration, which takes place about the 10th day — the pericranium will be found

spontan

+ patient should be warned of his danger & the

+ & from a fracture of the cranium — The antiphlogistic regimen should be observed immediately after the accident —

+ sometimes, when symptoms of compressed brain occur, we are unable to tell what part is injured — in consequence of no mark or apparent injury being found out it — however urgent the symptoms may be, we should not use the Trephine, until the injured part is found, but some recommends its use in these cases at guess — ~~see~~ if blood does not effuse from the bone when scraped, the effusion is at that place —

spontaneously seperated from the Cranium, & discharges very commonly a thin ichorous matter, the bone will have an unhealthy appearance, generally of a whitish, milky colour - but sometimes of a purple tinge — Under such circumstances the trephine should be immediately applied —

Inflammation of the Brain may occur from simple contusion of the scalp, or from concussion of the Brain + — For Contusions of the scalp, apply a bread & milk poultice - & if an abscess form underneath, treat it as in any other place — In all cases, low diet should be strictly attended to. to prevent inflammation of the Brain, or its membranes, purges shd. be used & copious V.S. no excuse — Blisters should be applied all over the head, & kept running — In inflammation of the Dura Matter, when we have reason to believe there is a formation of matter, on its external surface, an opening should be made thro the bone for its discharge — Sometimes both the Dura Matter & Pia matter are injured - When it is the last, a perforation of the scull will be of no use; as the matter collected beneath the Dura matter cannot be evacuated — When there is reason to suppose, that inflammation of the D. Matter & P. Matter has taken place from contused wounds, the patient should be trepanned, at the place of injury - which by removing the tension of the inflamed membrane, may prevent suppuration, and a train of disagreeable ~~consequences~~ symptoms + —

When

+ from an injury done to the head without any mah left –

When the degree of violence has been sufficient to fracture of the scull, we sometimes find the edges of the fracture are close — A question has then arisen, whether the patient should be immediately trepanned, or not — Mr. Root who took great pains to inform himself of the nature of injuries of the head — is of opinion that it had better be done immediately — & it is certainly safest — because there is a great risk of inflammation & suppuration taking place — the reason why it should be done, is because the fracture is compound, or else it could not be ascertained, that the edges of the fracture were in contact — This makes it necessary — but I have seen when the inflammation was not great, suppuration of the D. matter avoided by the antiphlogistic regimen — In simple fractures of the Cranium, when the brain is not compressed, or symptoms of compressed Brain appear — the trephine should not be applied immediately —

4th — Concussion — This sometimes produces symptoms of compression — & in other cases it does not — it may occur from people jumping from a height, or a hard floor — from falls — or from violence applied to the head ——— In wounds of the scalp — when the patient becomes immediately senseless — or delirious — begining a sentence, & breaking off in the middle suddenly — it is supposed the brain has been shaken — I doubt however, whether some of the vessels in the cranium are not ruptured — Upon examination, I have found in some cases

+ Mr. Abernethy divides the symptoms into 3 stages — 1st a state of insensibility immediately succeeding the accident, patient feels no injury inflicted on him — breathing difficult mostly without stertor — pulse intermitting & extremities cold — this stage does not last long, but goes off gradually & is succeeded by the 2nd pulse & respiration now are better, he is sensible if pinched — but he lies stupid & is insensible to slight external impressions — he becomes capable of replying to questions but to them in a loud tone of voice — as long as the stupor remains, the inflammation of the brain seems to be moderate — but as the former abates — the inflammation increases — & this constitutes the third stage which is the most important —

+ Dr. Bell in these cases recommends stimulants — but they are undoubtedly improper, for a concussion of the brain is similar to a bruise in any other part of the body — & you all know such remedies as these are improper in a bruise — effusion is often the consequence of using them in concussion —

+ It answers the purpose better than the 2nd instrument in order, formerly used, called a raspitory or rugine, & it diminishes the number of our instruments, by which means, the surgeon is less embarrassed & perplexed —

1st a scalpel — 2nd a Raspitory — 3rd a Trephine which should be of a cylindrical form, & not conical as formerly used — we should be provided with two of the same size, in order that the assistant may be cleaning one, while the surgeon is using the other — It should have a number of teeth set round the circumference & several notches between them to let out the matter sawn off — it should also have a moveable centre pin, to keep the Trephine in one place, till a grove is formed — 4th a simple elevator or lever, for raising the piece of bone after it is cut loose by the Trephine — some recommend a pair of forceps for this purpose, but they are useless — 5th a Lenticular, an instrument formerly used for cutting away the fragments, left on the internal side after the application of the Trephine, with its sharp edge, while it at the same time catches the fragments in its cup like part — but the elevator will answer this purpose — 6th a tooth pick to sound the groove — 7th a brush or towel to clean the teeth of the Trephine 8th a straight saw of this shape o—▯ which is used sometimes instead of the Trephine —

+ The older surgeons were in the habit of cutting out a circular piece of the scalp instead of making an incision — but this should never be done —

cases, when the brain was supposed to be contused, found the vessels ruptured, & in others not so — In these cases no benefit is derived from Trepanning + — General remedies should be used — the anti-phlogistic regimen is to be had recourse to; & all stimulating remedies are to be carefully avoided — Venesection, — low diet, dark room & Blisters should be used — & if this fail, Mercury sufficient to excite a salivation should be had recourse to — As a general remedy it would be right in contusions of the scalp, in every instance, to pour cold water over the head some time, by wh means the effusions from the vessels will be in a great measure prevented + — I would recommend for your perusal Pott on injuries of the head — — I have now only to shew you the method of operating with the Trepanne — In the first place the hair must be shaved; by which, we shall be able to examine the injuries of the scalp — next make an incision thro the scalp, for wh purpose a strong scalpel, the handle of wh is capped with iron, in order to scrape the periosteum from the bone, will be found the fittest + — In laying bare the scull, take notice whether it be fractured, or whether a groove, made by some vessel appear — if it is the latter the edges will be smooth — if the former, they will be sharp — If the bone be depressed, it must be elevated — To do this, it is necessary to remove a portion of the sound part too — The centre point of the Trepanne should be placed on a sound part, or else it will tend to depress it more + —

While

Places proper for applying the Trephine – The ancients thought the Trephine should not be applied on the sutures, the Temporal or occipital bones or over the sinuses – but we should apply it, whenever necessary – they prohibited the application of it on the sutures, because the D. matter adheres to the cranium more firmly here, than any where else, & hence there would be great risk of injuring it, at these parts – again they say the sinuses run under some of the sutures, & there would be a risk of injuring them with a Trephine, but even if it should be wounded, all that will be necessary, is to press a piece of dry lint on the part; the blood coagulates, & stops the hamorrhage – In this manner I have stopped a hamorrhage from the longitudinal sinus – another objection is, that there are more vessels running from one side of the bone to the other – Their reason for not operating on the temporal bone, was, that they were fearful of wounding the Temporal muscle, & thereby occasioning the locked-jaw – but of this there is no danger – a locked jaw will not take place, but only a soreness of the muscle, which prevents its fibres from being elongated without occasioning pain, but this soreness wears off in a few days – They objected to the occipital bone, on account of the sutures, & also of its unevenness – but no danger is to be apprehended from it, provided the depth of the groove is frequently examined with the tooth pick – for a more minute account of performing the operation consult Pott –

While the perforation is making, great caution must be taken to move the centre pin, as you still penetrate deeper, so that it does not perforate the D. matter — It is also to be carefully observed, whilst operating over the lateral sinus, when you judge you are nearly thro the bone, the groove — should be well cleaned out, to examine if in any place it be nearly thro — for this purpose a common tooth pick answers very well — you may likewise have recourse to your elevator — this should be done often towards the last — thy if you can raise the enclosed pieces — if you find it nearly thro on one side, lean the instrument to the other — It is adviseable to force the piece out with the elevator, before it is quite cut thro; as there will be then less danger of injuring the D: Matter — Any spicula of remaining bone may be broken off with the elevator — a saw of this shape may be used, after the Trephine, when long depressions of bone require it; because to use the Trephine in several places adjoining, would be removing too much of the sound part of scull — +

The symptoms of extravasation occur within the cranium, from external injury applied to the head, a perforation should be made thro the scull, to let it out, or rather to discharge the effusion —— When blood is made between the D. Matter & scull, a hole made in this manner will suffer it to pass out — at times this effusion is but small; at others it is of great extent — so that the D. Matter lying close to the perforation prevents its escape —

a spat

+ If blood is the effused fluid, the colour of the D. Matter is dark –

+ By the pulsation of the Brain, I mean its rising & falling, during inspiration & expiration – If the symptoms are not violent, I would trust to cold, evacuants &c – to produce absorption – The Brain rises during expiration & falls in inspiration –

+ because the blood coagulates to the lint, & makes it adhere so firmly to the D. Matter, that it prevents our examining it afterwards, without tearing it off with force, which is apt to excite inflammation –

+ the bone generally exfoliates more or less & granulations have to shoot up, before a cure can be performed –

A spatula introduced between the D. Matter & Scull will suffer the matter to flow out –

Sometimes an effusion is collected between the D. Matter & the brain, & upon the removal of the bone, instead of a flat surface, as in health a convex one is presented – sometimes rising up so as to fill the opening in the bone + – but no motion of the brain will be felt – These are not symptoms of effusion between the lobes of the brain, because if it was an extravasation between the lobes, the motion of the brain would be perceived + – I have never seen the D. Matter punctured, but in one case in which the patient got well, therefore when it can be avoided, it should never be done – I have cured an effusion in the brain, by observing the Antiphlogistic regimen, & bleeding as often as 3 or 4 times a day for 5 days – wh I believe I shld. not have done, had the D. Matter been punctured – When it is punctured, there arises a fungous portion from the wound, suppuration takes place at its root, & the patient dies –

after the operation of trepanning is gone thro', bring the edges of the scalp into contact; & then apply a simple poultice of bread & milk; which is the most easy application – Lint is not a good dressing +; nor should any greasy matter be applied, as it would prevent the pus from flowing out – The poultice should be continued till granulations appear +, & then dress it with simple cerate – The application of the Trephine in this case, only relieves the com-

pression

+ & the Dr. matter of its natural appearance ~

+ not much pain ~ but there is a slight burning sensation ~

+ to the part ~

+ taking care to wet the wraps frequently thro the day ~

compression of the brain — This done, we must guard against inflammation, by bleedings, cathartics, & low diet — The antiphlogistic plan should be adhered to, while any coma continues — And in depressions of the bones, when the brain is completely relieved by its elevation,* the edges of the divided scalp may be drawn together to unite by the first intention — as it would take a much longer to heal, if it be suffered to suppurate & granulate ——

Diseases of the Eyes —

1st —— Inflammation — This may take place in the eye-lids, either in whole, or in part — in the Tunica conjunctiva — in the cornea, or in the globe of the eye — either in the anterior or posterior chamber — Inflammation of the eyelids sometimes causes extravasation of serum into the cellular texture of the eyelid; swelling the part very much so that the patient cannot open them* — The skin becomes of a scarlet colour; this frequently comes on in the night, & the patient supposes to proceed from the bite of an insect — It is not however easy to ascertain, what is the cause, unless when it arises from mechanical injury or violence —

In general if there be much inflammation, bloodletting should be used, which with the exhibition of a mercurial purge & low diet will mostly remove it — If this be not sufficient, the application of camphor & Brandy may be tried* — the best way of applying these remedies is to dip a rag in the brandy & lay it over the eye* —

The

+ cold water is the best application to prevent them from adhering togetha-

The discharge of fluid, in many cases of inflammation of the eyelids, is but small —

Sometimes the edges of the eyelids becomes excoriated or ulcerated, discharging a viscid, purulent fluid, agglutinating the lids so that the patient has to wash them in the morning before he can get them open — The general opinion is, that it is owing to an ulceration of the mouths of the ducts of the Glandulæ Meibomia — I however believe it to be owing to ulceration seated at the root of the hair; resembling in this respect Tinea Capitis — a proof of the correctness of this opinion is, that when the hairs are plucked out, the patient gets well —

Treatment —

Spermaceti has been used with advantage — A wash of a solution of Lapis Infernalis has been advised by Dr. Dwyer, taking care to wash it off afterwards, so that none should get in the eye — The most general remedy is a solution of Sac. Sat — also unguentum citrinum — I have found that the ung. a pica applied between the edges of the lids is the best remedy — When this fails, plucking out the hairs has been effectual — a girl about 10 years old was cured by this ointment in about 2 weeks — she had been affected with inflammation & ulceration of the eyelids for 9 years —

Of the Tunica Conjunctiva & Cornea

When this is affected & inflames, it becomes red, owing to the increased size & action of the blood vessels, which were before pellucid, but now admit red blood — The eye is red & waters excessively — The patient cannot

cannot bear the action of the light, no or scarcely opening them — the pain is of a hot burning kind — causing a secretion of extraneous matter — In some instances the pain is not confined to the eye, but affects the forehead, temples &c — Sometimes the inflammation consists in a pimple or speck — this may be situated either on the T. adnata or cornea — but is most commonly near the edge of the cornea — The only difference in them is in seeing, as the latter intercepts the light —— Inflammation of the T. Conjunctiva often spreads over the whole cornea, throwing out coagulating lymph, & if not soon cured, leaves a film behind it, obstructing the sight of the patient — And the pimple just mentioned, if not soon cured leaves an opaque spot behind it — and the inflammation on the corners of the eye, causes an extravasation of coagulating lymph, which occasions a disease called unguis —

The injuries done to the eyes which occasion inflammation are 1st — Mechanical violence — by wounds or by sand getting into the eye — Trichiasis &c — 2nd — Acrid substances applied to the eyes — these often occasion blindness — as lime — ashes, smoke &c —— 3rd — Strong light — 4th — too much exercise of the eyes — viewing small objects — 5th — Cold — 6th Intoxication — 7th — Small pox, scrophula — Venereal disease &c —

Inflammation often occurs without our being able to assign any cause for it — Inflammation of the eyes is sometimes produced by the matter from Gonorrhoea being applied to them — This is a

rare

+but it frequently terminates in suppuration here

+generally the pupil remains of the same size, whatever degree of light may be present.

rare occurence — but when it proceeds from this cause, it is mostly of very great virulence ——

Next of Inflammation of the Globe of the Eye — This may occur, either before the chrystalline lens, or in the posterior chamber behind the lens — it is attended with great sensibility, shooting pain & fever — When it affects the anterior chamber only, there is not so much pain — When it occurs in the posterior chamber of the Eye, it occasions violent pain — the fever rises very high, & in general if it be not soon removed, the sight is lost — The first case I ever saw of this kind, the patient soon died ——

Treatment — First remove all mechanical violence, & avoid the remote causes — If it be produced by some extraneous matter getting into the eye — as a grain of sand lodging between the globe & the eye — it must be wiped off — a probe with a piece of soft rag wrapped round it, & passed round between the lid & eye, will mostly dislodge it — Should this be unsuccessful, inject warm water into the eye — If it still remain, by elevating the eyelid, we are able to examine it, & remove the sand — If it stick in the cornea it is not easy to see it, as the eye will roll about incessantly, & cannot be held still by the patient — a speculum or the handle of a pair of scissors will enable us to hold the eye still, so that we can examine it, & remove the offending object with the point of a lancet — Or what is better — a quill

+ Dr. Dorsey has cured it by cutting out a portion of the cartilage —

× this may be done by a pair of scissors or with a lancet —

+ a piece of the lungs of a calf is an excellent poultice — Blisters to the temples, behind the ears, back of the neck, & sometimes over the whole head is of great service — I have of late years been in the practice of applying them to the eye itself — the Blister should be spread on soft leather, & the ointment freshly made — the best is made of oil & beeswax — the flies should be finely powdered, & mixed intimately in the cerate — the eye should be then closed, & the plaister applied over it, with a piece of gauze intervening — the plaister should not be used untill the system is sufficiently depleted —

a quill made in the manner of a tooth pick —

In Trichiasis — the inflammation of the eye arises from two causes 1st the hair of the lid growing inward — When this is the case, pulling the hairs out will produce a cure —

But there is another affection of the eyelids which is the 2nd cause — The Tarsus itself is turned in — It may be turned out & divided — or a piece of the skin of the lid may be cut out (taking care not to divide the conjunctiva) & the divided edges brought in contact & kept so by the interrupted suture —

We can generally cure inflammation by bleeding, which should be regulated by the violence of the fever, & the degree of inflammation — When he has lost considerable quantities of blood from the arm, he can bear cupping on the cheek & temples & leeches round the eye — If the Inflammation still continues, there is another mode wh is very beneficial — scarifications of the vessels of the adnata — The next remedies are purges along with V.S. — the antimonials are found very useful — I prefer the mercurial — Lastly applications to the eyes — The mildest remedies should be tried first — of which perhaps an infusion of the pith of Sassafras is the best — sometimes a bread & milk poultice answers very well — but it is frequently & keeps the eye too hot too heavy — a crumb of stale bread put into a gauze bag, boiled, dipt in rose water, & applied to the eye, is a very pleasant application — If this does not answer, laudanum

+ or the following collyrium — Acetum plumbi — gr ii — Sulphate of Zinc grs iii
Tinct. opii ℥ss — aqua font. ℥ii M — but here I would guard you against using
these astringent applications — untill the inflammation has subsided —

* But I have used Tar water with success after all other remedies have failed —
* we should promote its absorption by the antiphlogistic regimen — but if this does
not succeed

Δ But when formed in the posterior chamber, our only chance is the adhering to remedies
that promote absorption — (viz) a dark room — low diet — avoiding all ardent spirits &c —

laudanum, or Sac. Sat. — Vit. alb. & laudanum combined in the usual proportions may be tried — But astringents should not be used too soon — They do damage, if used before proper evacuations be premised† — In such cases, I think ℥ii of vinegar added, greatly improves the remedy ‡ — When the inflammation has gone on to suppuration, & matter is collected behind the cornea, *it should immediately be removed, by an incision made in the same manner, as for cataract, instead of allowing it to open by the natural process of ulceration, which would render the cornea opaque — When all these remedies fail, mercury so as to excite a salivation, with a vegetable diet, often proves useful — Two other circumstances are of the utmost importance — 1st — confining the patient to a dark room — & 2nd a diet strictly vegetable — a seton in the neck from the arm may be useful, to serve to decrease the inflammation —

Unguis — sometimes grows over the cornea so far as to obstruct vision entirely — The only remedy is to dissect of the membrane with the scissors, raising it up with a hook — except that part wh. adheres to the cornea — which should be carefully dissected off with a very sharp knife — I have already mentioned that inflammation causes an opacity of the cornea, which almost always remains — but wh. sometimes goes off voluntarily if left to itself — mistaken notions of the cause & nature of the disease have led physicians into a very erroneous practice — Molasses has been dropped in the eye — & finely powdered glass has been used, with a view to cut

† which are situated on each eyelid at the internal canthus

cut it off — but they only serve to make it worse — If any part of the cornea remain transparent, an operation may possibly restore vision again — by making an artificial opening in the iris or pupil —

I once saw a case where the person had washed his face with his urine, whilst labouring under gonnorhœa — inflammation supervened & all the cornea became opaque — the patient called on me for his sight, & from his anxious request, I consented to operate on his eye — tho' with little hopes of success — I passed a knife thro' the cornea, & cut off a piece of the iris — the eye was then closed, & the patient put to bed — He can now see to read if the print be large — I never saw such an operation before —

When the eyes are violently inflamed, it is very difficult to remove the inflammation — I once had a case of violent inflammation of the eyes, the patient laboured under great pain, in which bleeding, low diet & salivation &c — had been used without success — cupping & scarification were also useless — He was cured with Sea water, by washing his eyes with it — & wetting rags with it — and applying over them —

Fistula Lachrymalis — It

is impossible to cure this disease, without an accurate knowledge of the anatomy of the parts — The tears secreted by the lachrymal glands, which are not used to lubricate the eyes, are taken up by the Puncta Lachrymalia, & carried to the lachrymal sac, from whence they are conveyed to the nose, at the lower part, just under

the

+ Sometimes a portion of the sac is forced down into the nose — in this state it is attended with no pain —

the inferior Turbinated bone, by means of the ductus ad nasum — These two ducts which lead into the nose, in common to all other ducts, are liable to strictures — When they are stopped by any means, they become swelled between the obstruction & the eyes — tears form in the eye & the smooth surface of the sac is protruded — If you press on the swelling, the tears will regurgitate, & if pressure be continued, the tears will be followed by a viscid matter resembling mucus — which is probably secreted by the inner surface of the sac — If the eyelids stick together, they may be washed & a piece of dry, soft diaper applied between them — Not unfrequently inflammation takes place in the lachrymal sac, occasioned either by distention of the tears, or the persons taking cold, & is communicated by the skin lying over the sac — which swells so that the patient is unable to shut his eye — The inflammation is generally attended with pain & fever — Bleeding & low diet are necessary for the cure — When the sac is distended so as to burst in the eye, or open by ulceration — it is then called Fistula lachrymalis — In Fistula Lachrymalis occuring from a stricture in the Lachrymal duct, no inconvenience is experienced by the patient, but that which arises from the tumour, wh may easily be removed, by placing the finger on the internal canthus of the eye, when the tears will flow over down the cheek — An accumulation of tears in the lachrymal sac occasions the inflammation to terminate in suppuration —

Ulce

+ after making an incision thro' the sac –

+ & kept in as long as the patient can bear it –

+ But I prefer this silver Stile — invented by Mr. Ware of London – it is necessary to persevere in the use of it several months – it should not be introduced however when there is much inflammation – you see it has a button at the end to prevent its slipping into the nose – this button may be covered with black sealing wax, to resemble a piece of court plaister – the sealing wax should be used; for plaister or almost any other substance would be washed off by the tears – it should be removed once in two weeks to clean it, & return it again –

+ you always have a tumour or a fistulous opening to guide you where to make the puncture –

+ beginning a little below the inside of the orbicularis muscle in the internal canthus – continuing down in the direction of the bony orbit –

+ when the punch is in the nose – the patient sometimes sneezes – a little blood drops –

Cure — 4

the duct can be opened by a probe, passed from the sac below the stricture, so as to let the tears flow into the nose — after the probe is withdrawn, a peice of bougie, long enough to reach from the outside of the eye, into the nose, should be introduced, & kept in to prevent the stricture from stopping the passage again — The bougie should be long enough to project ¼ of an inch, which should be bent down over the cheek — When the duct cannot be opened by this means, we must make an artificial opening thro' the os unguis, into the nose, for the discharge of the tears — It sometimes happens that the fractured edges of the bone, made by puncturing the os unguis, throw out a bony matter & close the opening again — The swelling to the sac shews where to make this opening — I shall now shew the method of Operating — in order to cut out a piece of the sac & os unguis — Seat the patient on a chair When we make the incision thro' the integuments, to introduce the punch, the back of the knife should be upward, to prevent cutting the tendon of the orbicularis muscle — The incision being made, a peice of horn is to be passed up the nose, to make the necessary resistance against the puncturing instrument — wh is a hollow punch invented by Mr Hunter — It is to be introduced into the sac, till it comes in contact with the os unguis, thro' wh the opening is to be made — When the opening is made in this manner there is no need of a bougie — It is sometimes attended with caries & fungous of the bone — The carious portion of the bone should be extracted, & fungous as if in any

other

+ sometimes occupying the whole & sometimes only a part of the pupil —

+ but after this white specks or spots appear in the eye

+ tho' I have seen opacity from violence removed, after the antiphlogistic plan had been used without success — by inducing a Pellicum —

other part — Bring the edges of the wound in contact, & secure them with adhesive plaister — & the tears will flow thro' their newly made orifice, without any difficulty —

Cataract — By this

term is meant an opacity of the Chrystaline lens, or its capsule, wh. prevents the admission of light to the retina — It shews itself by a speck behind the pupil, & is most commonly grey, or of a witish colour — sometimes black — & I have seen it of an amber colour — It commences by dimness of vision — compared by patients to their looking thro' gauze —

Sometimes, before any opacity is discernable, by looking into the eye — there is by patients an appearance of mist, or as if moats, threads, or hairs were floating in the air before them + — This disease seldom occurs in very young people — most commonly at about 40 — but I have seen it in an infant — It often comes on without any known cause & any external cause or violence — I have seen one case follow a blow — another case Trichiasis —

A long list of medicines have been proposed or employed, for the cure of cataract — & Mercury may be employed at the head of them — without any good effect — this has been assisted by bloodletting without any advantage — cupping, leeches, Blisters, Electricity &c — but all proved to be of no use + — If it arise from mechanical violence, it may disperse; indeed nature unassisted by art, possesses the power of removing the opacity — of this I have known several instances — I think this takes place oft-

est

+ Therefore to perform it correctly, we should be provided with a speculum, to keep the eye still, & motionless – then a needle, Mr. Pool recommends a spear pointed one, smaller towards the handle, than in the middle, by which means, the vitreous humour is not permitted to escape by the side of it – Mr. Hey uses a round needle, a little flattened & curved towards the point – but this needle on account of its flatness towards the point cannot be made very sharp, & therefore instead of making an incision, it makes a contused wound thro' the sclerotica — Knowing that an incised wound would heal much more readily; I have always made a small incision in the sclerotica with the extracting knife – after making this puncture with the knife, the needle is to be entered at the same place, which should be about 1/10 of an inch from the cornea, & passed on, untill the point can be be seen behind the pupil – The needle should be entered into the body of the lens, but pushed in between the lens & iris, taking care not to entangle & wound the latter – after being pushed in this way untill the point can be seen thro' the pupil – The flat side of the needle is to be applied to the side of the lens, and it pushed back a little, with the flat side down & the handle raised a little, by which means the cataract will be depressed to the bottom of the eye – The patients eye which before appeared white & opaque, when looked into, now becomes black, & is enabled to see objects presented to him – The patient should live on a low diet, but it is unnecessary for him to keep his bed, as directed after the operation of extraction –

+ after tearing the capsule open –

oftenest, when the capsule of the lens is opaque — & oftener in women than in men — I have the cases of two young women, in whom this disposition took place — they could see by convex lenses, which made me believe the lens was removed — I have seen another case, brot on by an unsuccessful attempt to couch —

As Medicines are unsuccessful in the cure of this disease, it is a happy circumstance that it may be relieved by Surgery —

Two operations have been proposed 1st — Couching & 2nd — Extracting — Couching is performed with a needle — this is passed thro' the Sclerotic coat — about one tenth of an inch from its juncture with the cornea, & passed on till it gets to the centre of the lens — it is then turned with its flat part towards the lens, which is depressed below the vitreous humour — if it should rise the operation must be repeated —

Extraction — This consists in making a semi section of the cornea, thro' wh the lens is removed from the eye — both operations have been practised — that of couching is the most ancient — that of extraction the best — 1st because the operation is not so painful — this is proved by comparative operations — the same patient has had the lens extracted from one eye — & depressed in the other, & it is performed quicker — 2nd — When the cataract is taken out, it can never again obscure vision — but it may rise repeatedly when depressed, occasioning a return of blindness — & each time the operation must be performed — It sometimes lays loose in the posterior chamber of the eye, & when the patient stoops causes

blindness

+ some say there is not so much pain in couching – but I have known the lens after couching to inflame & cause an immense deal of pain –

+ & they are allowing to awkwardness in the operator –

blindness, by its falling upon, & closing the pupil — It has been agreed that the lens has been absorbed, or may be; but this is seldom the case.

3rd — When the cataract is fluid, it may be extracted, but cannot be depressed — I have known it to be entirely fluid — it may be of the consistence of calves foot jelly — or of the white of an egg completely coagulated —

4th — When the capsule is opaque, as well as the lens itself, it may be pulled out — but such opaque capsules cannot be depressed with the couching needle without injuring the iris —

The opaque capsule is by no means a rare occurence — it cannot be depressed — because it stretches & bends down at that part in contact with the needle, & after the operation returns to its place, by its elasticity —

5th When adhesions exist between the capsule of the lens & iris, by opening the cornea, they may be seperated in extraction — but not in depression without injuring the iris — In one instance I saw the iris torn off — & depressed along with the lens —

The inconveniences attributed to extraction are —

1st — An opacity of the cornea, that may arise from the cicatrix — but none exists where it is divided by a sharp knife, & with one stroke — if scissors are employed, there is sometimes an opacity — but this is not before the pupil, & of course will not impede vision —

2nd — The passage of the lens thro' the pupil, when it is firm & hard is said to stretch so unequal as to form an irregular pupil — This sometimes does take place

+ or he may do so by the use of glasses –

+ & then the section of the cornea may be completed –

+ the knife dull, or in the hands of a clumsy operator –

+ & the eye ball free from inflammation – in fact the eye should be in all other respects sound –

place, & causes the pupil to assume an oval form but it does not impair vision — besides it occurs in depressions sometimes — the patient sees as well after as before + —

3rd — The hazard of cutting the iris, in passing the knife thro' across the cornea — Unless the operator is very careful to pass the knife straight across the eye, the aqueous humour will escape thro' the section of the cornea, & the iris will fold itself on the edge of the knife, & part of it will be cut away — But this may be avoided by rubbing the anterior part of the eye, with the finger, which will disengage the iris + —

4th — The great danger that the vitreous humour may escape — but this only arises from improper pressure being made the moment the section of the cornea is made + — pressure at that time is not necessary — & should not be made —

As every case of Cataract does not promise success — it is of consequence to know what circumstances are unfavourable —

When it is combined with other diseases, it is improper to operate — The circumstances favourable to the operation, are — The eyelids should be free from edema + — The patient should be free from pain in the head, & eye as this pain has been much increased — The Surgeon should not be deceived in examining the eye — This may happen from opaque spots on the cornea — & a particular reflection of the light from the eye — he may avoid the former by looking at the ~~light~~ eye sideways — the pupil will be seen below the spot — In the latter, the patient should be placed with his side to the window,

that

+ It will not succeed however, if the patient makes some hesitation, when you place any substance between his eye & the light, to tell when it is there & when it is not –

+ If the patient is very desirous to be relieved – couching should be performed –

that the rays of light may fall obliquely upon the eye — The pupil should dilate & contract freely — This contraction & dilitation does not prove the retina to be sound — & it may be sound & the pupil may be immoveable, owing to adhesions — If the patient can distinguish light from darkness, the operation may be advised — In case of immobility of the pupil, when the retina is sound, the iris probably adheres to the capsule of the lens — I saw the case of a woman, who had a cataract in each eye, the pupil moved freely in both — I operated & found both lenses as hard as a stone — the patient saw but with one eye, tho the operation was performed equally well in both — The patient being unable to distinguish light from darkness, is not a certain test or sign — Before the operation, it will be necessary to ask if the patient be subject to a cough — or apt to sneeze or vomit — some old people sneeze violently — If the patient be subject to sneezing, we should choose a time when he is least affected with it, for the purpose of operating — I have seen pressure on the upper lip, when the inclination for sneezing came on, suspend it — I knew a case where sneezing ruptured a vessel of the iris, hemorrhage ensued — which did not stop till a coagulum of blood was formed — this extended between the divided edges of the cornea, & prevented their union — I was fearful of removing the coagulum, lest hemorrhage should again take place — the eye suppurated & the patient lost his sight — Sneezing might also force out the vitreous humour — Persons apt to faint on every occasion are bad subjects — they should

take

+ or 1st The speculum has been used, to steady the eye; but this instead of steadying the eye, causes it to move from irritating the ball, besides it gives the patient considerable pain. but another inconvenience, is, that the surgeon must hold it in one hand, & thus if the iris should get entangled, he cannot rub the eye to disengage it — When I use it however, I have a ring to put one finger in at the end — & then have my fore finger at liberty —

+ from which circumstance the iris might get entangled before the cornea was cut —

+ The blade should be about an inch & a quarter in length & 1/4 of an inch in width —

+ this scoop may be fixed at one end of the needle thus —

take laudanum before the operation ——— As inflammation sometimes occurs to a considerable extent, & may go on to suppuration. it is proper to confine the patient to a low vegetable diet for a few days — and to decrease the inflammatory diathesis, it will be necessary to use bleeding, purging &c — eight or ten days before the operation — a day or two before the operation, a blister may be applied behind the neck — The bowels should be opened, to prevent the inconvenience of rising for a few days — The best seasons for operating are spring & autumn — Cold or hot weather is not proper — because in the first place the room cannot be kept equally warm, which exposes the patient to the risk of taking cold — & in the latter he is apt to be restless ——

The Instruments for operating ——— 1st — For making the excision of the Cornea, a knife after the direction of Baron Wenzel — It should greatly increase in width from the point to the handle, the back a little convex — It then serves as a wedge to prevent the escape of the aqueous humour * — it should be thin, but sufficiently firm not to be broken — the upper edge should be blunt till near the point, the rest very sharp — it may be examined with a microscope, or a much easier method is to look at it before a looking glass — In choosing a knife we should get one wider at the handle, than the semidiameter of the cornea † —

2nd — A needle a little curved at its point, with wh the capsule of the chrystaline lens may be torn ——

3rd — a little scoop of gold or silver, to extract small fragments which are left behind † ——

4th

+ It is also requisite that we should have at hand, a pair of small sharp scissors, that in case we should not make the opening in the cornea, sufficiently large with the knife we may enlarge it –

+ but placed so that the light may be reflected obliquely – the surgeon should have a good view of the pupil –

4th — A small hook, to be passed thro' the pupil, & fixed in the body of the lens, for its extraction — when it falls to the bottom of the eye — to touch for some distance from the point —

5th — A small pair of forceps, for the extraction of small fragments of the torn capsule, which may remain — It was the practice of the ancient Surgeons to use a speculum oculi — I use no instrument of that kind to steady the eye — the greatest objection I have to all instruments of this kind, is, that they occupy one hand of the operator — the Surgeon cannot rest the anterior should the iris become involved in danger — besides it gives pain to the patient & may excite inflammation — In proceeding to the operation — I find it of use in fixing the eye — to assure the patient there is no pain in the operation, nor danger even attending it —

The patient is seated on a low chair, & the side towards the window — he should never be placed directly before the window, or the reflection of light from the cornea will prevent you from seeing the cataract — A bandage is placed round the head, with two depending compresses attached to it, to cover the eyes — that compress hanging over the affected eye is pinned up to the bandage — If the hair be long before, it should be cut, to prevent the chance of getting into, & irritating the eye — The Surgeon is seated on a chair considerably higher than that of the patient, & taking the knife in his right hand, or left hand according as the right or left eye be affected —

He proceeds to make the section of the cornea — the patients head

+ taking hold of it like a writing pen –

+ but wait till the eye recovers from its first fright & becomes motionless –

head should be placed for support, on the breast of an assistant, who raises the upper the eyelid — in doing this the skin should be folded upon the superciliary ridge, so as to prevents its closing — The tarsus should be kept firmly against the frontal margin of the socket — The Surgeon pulls down the under lid, & waits until the eye is steady — at that moment he applies the point of the knife to the cornea*, at about 1/12 of an inch from the sclerotica — only apply the knife — but do not suddenly puncture, for at that time the eye generally recedes from the knife* — but it should be followed, & the moment it becomes fixed, the puncture should be made, the knife is then carried across the eye, & brot out at the opposite side — making a semicircular incision —— If while the section is making, by the discharge of the aqueous humour, the iris comes forward, so as to endanger its being wounded, the motion of the knife must be stopped, & the iris made to recede, by gently rubbing the cornea — The incision is then to be completed — that the eye should not be the least pressed upon, the assistant who raised the upper lid, should let it fall, as soon as the point of the knife has passed thro the other side of the cornea — In making the incision, never draw back the knife, for if this be done, the knife no longer acts as a wedge, to prevent the escape of the aqueous humour — the knife should be wide enough to cut itself thro — always equal to the radius of the cornea — But if owing to the motion of the eye,

or

× Taking care that the cilia dont get in the eye – as it would produce inflammation –

or any other cause the knife be drawn back, it would be advisable to desist from the operation, & defer it until the wound in the cornea has healed — Baron Wensel advise to puncture the capsule of the lens, during the section of the cornea, by dipping the point of the knife thro' the pupil — This might be done if the eye were very steady — but it is so very unsteady as to render the Baron's direction impracticable — I prefer tearing the capsule afterwards with a needle — with this the capsule can be much easier torn, & if it be opaque, it could then be much easier extracted — In teaing the capsule, care must be taken not to injure the iris — This being done, care must be taken that the eye be closed to give it rest — & that the pupil may dilate — after resting a few minutes, the eye is opened by the surgeon, & gradual pressure was made on the ball — at the same time the divided portion of the cornea, is raised up by the scoop — If the lens does not come easily thro' the pupil, the Surgeon takes hold of it with the needle or hook, to facilitate its extraction — The moment it is out, the lid should be closed, & remain some time so — they are afterwards opened, & the state of the pupil examined — If the capsule be not opaque the patient sees — if opaque, the pupil remains white — The Surgeon should next proceede to extract the fragments of the capsule. These are often brot into the anterior chamber of the eye, and discharged by gently rubbing the lid over the cornea — but if this should remain in the eye, the scoop should be employed, this should not be pushed too far, for fear of injuring the capsule of the

vitreous humour — If the capsule of the lens is to be taken out, a small Forceps is the best instrument — Sometimes the lens cannot be extracted by any moderate degree of pressure, tho' aided by the hook — it is then probable that its capsule adheres to the iris — The adhesions must be torn away by the needle — but this requires nicety — take care not to throw the iris into folds, or it may be torn —

Sometimes before the operation, we know the capsule is opaque, we know this by spots of opacity, appearing as slough, detached from the lens — in this case, after the section of the cornea, as it is known the capsule must be extracted — I advise the anterior part of the capsule, to be pinched by a pair of forceps, when by pulling the whole membrane, it may be readily taken out — The capsule is extracted first, because it can be more readily laid hold off while the lens remains in the eye — The lens when devested of its capsule, falls to the bottom of the eye — it may be extracted with a small hook — a small portion of the vitreous humour always escapes — — After removing the cataract, it is necessary to exhibit different substances, such as watches &c. to know if the patient has vision — but the eye should not be kept open too long — During the operation, none of the relations of the patient, should be present — a Dutchman who had been blind for five years, was operated on, for cataract — his wife stood by during the operation, & was the first person he saw — The poor man burst into a flood of tears, & it was with great difficulty he was prevented (literally) from crying

+ Blindness sometimes takes place, in consequence of the closure of the pupil at other times from an opacity of the cornea – when it takes place from the closure of the pupil, vision may be restored again – if the eye be otherwise sound – The operation is to be performed, by making a semilunar incision with a Knife in the cornea, in the same manner as when operating for cataract – but with this difference, the iris is to be cut piecing each side of the cornea 1/12 an inch from the edge at the same time, by turning the point of the knife down, so as to pass into the iris, then raised again & pushed forward, so as to complete the section – By this means a semilunar incision is made into the cornea & iris at the same time – the flap in the iris should be about 1/10 of an inch in diameter, this flap is then to be cut off by an instrument resembling a pair of forceps, having on one side a small cutting punch – There is sometimes some difficulty of opening them in the eyes – The flap may be also cut off by a small pair of scissors a little curved at the point –

An Opaque spot on the Cornea as the Cause of Blindness – persons in this situation may be commonly relieved – if the iris & other parts of the eye remain sound – this is done by entering the knife, as when about to extract a cataract, & passing the point to about the middle of the anterior chamber, then by retracting it a little, the aqueous humour will run out, & occasion the iris to float forward on the knife is then to be passed into it, & an incision made, under some transparent part of the cornea –

+ The name of rupture, has been given to hernia – but this is improper – it took its origin from the idea of the ancients, supposing the sac to be always, broken or torn – but this is not the case –

+ It most frequently happens at the navel – groin & fore part of the thigh – where at the umbilicus, the substance forming the hernia, passes along the course of the ligament, which once formed the umbilical vessels of the fœtus – { + it passes thro' the abdominal ring then, along the course of the spermatic vessels of the male, & round ligament of the female –
o It then, passes along the course of the large vessels under Poupart's ligament –

* If a portion of intestine only form the contents of the tumour, it is called Enterocele – if a piece of omentum only, epiplocele – & if both form it, it is called Entero-epiplocele –

crying his eyes out ~ After the operation is completed, a soft dry rag is to be applied to the eye ~ the depending piece of the circular bandage is to be unpinned, & turned down over the eye ~ & then a bandage should be applied, & carried around the head, over the nose tightly ~ The patient is then put to bed, & ordered to lie on his back, to prevent the escape of the humours ~ all light should be excluded from the apartment ~ The patient should live on a vegetable diet or spoon vegetables ~ In taking drink, he must not raise his head ~ a teapot without a lid (as it might fall on his eye) should be used for giving him drink ~ The patients hands must be secured by pieces of tape tied to the bed rails, to prevent his rubbing his eyes in his sleep ~ In 8 or 10 days the eye may be examined ~ If pain or fever come on, use such remedies as will remove them such as copious V.S. ~ & change the dressings twice every day at least ~ as the moisture which escapes from the eye, is absorbed by the dressings ~ wh by becoming dry, cause irritation ~ When the dressings are changed, always pull down the under eyelid, for the hairs if they get into the incision of the cornea, prevents its healing ~

Hernia ~ In the general acceptation of this word, we mean a tumour, occasioned by a preternatural protrusion of some part or parts of the contents of the abdominal cavity ~ When this occurs at the navel, it is called **umbilical** or exomphalos ~ in the groin, it is called **Bubonocele** or **Inguinal** ~ & when falling down, scrotal or oschepele ~ On the upper part of the thigh **Femoral** or crural ~ a process of the Peritoneum constitutes what is called the hernial sac, in all cases of Hernia except the **congenital** (a mistake) *

By

+ they say it is wind –

≠ or it will subside if the patient is placed in a horizontal posture –

+ Dissection of the sac exhibits the following appearances – after getting thro' the cellular substance, a fascia is first met with, which is given off from the external oblique muscle. & then the hernial sac – the upper part, or that next the ring, is called the neck or mouth – It commonly lays before the spermatic chord, but this is not always the case – for sometimes, it is behind it –

+ 4th It is not transparent, as may be perceived, by means of a candle –

+ the stools are regular – whereas in hernia, they are generally irregular – coughing & sneezing has no effect upon it – & when far advanced a fluctuation of matter may be perceived –

By Congenital Hernia, we mean a protrusion of the intestines, descending, before the Tunica vaginalis closes at the abdominal ring — & in this case the tunic is the sac of the hernia — The intestines here extend along the chord down to the scrotum in males — & Labia Pudenda in females — The tumour always increases when the child cries or sneezes, & is easily rectified by the mother or nurse, who generally push it up — but as long as the opening of the Tunic vaginalis remains — so long will the patient be liable to a protrusion of the parts —

of Bubonocele or Inguinal hernia —

The symptoms of this are 1st a swelling of the groin, beginning at or near the abdominal ring, & passing into the scrotum in men or labia pudendae in women — The testicle can be felt at the bottom of the scrotum, the tumour is soft, bears handling well — 2ndly & when the patient lies down or rising it disappears but returns again — & sometimes increases to a great size, even hanging down as low as the knee — & is enlarged by coughing, straining — 5thly the bowels do not perform their actions naturally — pressure on the abdomen makes it more tight — 3rdly if the surgeon place his hand on it, & the patient cough, he will feel the pressure made against his hand, communicating a sensation as if it were blown into — There are some diseases with wh hernia is like to be confounded — as Bubo — swelled Testicle — Lumbar abscess, hematocele & Hydrocele, cirsocele & varicocele — but by paying attention to circumstances, it is easy to distinguish them — a Bubo is generally preceed by a chancre, is hard & painful — & the tumour does not disappear on lying down — It is likewise easy to distinguish between

++ It mostly succeeds, local injures, Gonorrhoea &c - formation commences in the testicle, & proceeds gradulally upwards, whereas hernia, as before said, descends - coughing, sneezing, & posture of the body, has also no effect in changing the size of a scirrhus testicle & the Testicle is flattened on the sides by the pressure of the thighs - which is not the case in hernia - The Testicle is also heavier -

+ But in hernia if the hand is laid on the tumour, & the patient cough or sneeze. it feels like air was blown in it - It is more transparent, than hernia, if a candle be held on the opposite side - It is important to distinguish hernia from hydrocele as we might be induced to inject wine, which would produce dangerous consequences -

+ It is difficult to distinguish, when cysts, are formed, in the chord - they may be distinguished thus by the cysts being higher up - the testicle may be felt below on pressure in hernia, the tumour passes up into the abdomen, but on its removal, it returns again - cysts resemble hydrocele, in being transparent, & hernia, by being affected by coughing & sneezing - A varicocele is also difficult - because the varicose vein & swelling extends all along the chord - you may distinguish it by laying the patient down & put your finger on the ring, when the blood is all up in the belly, then tell him to get up, if it is hernia it will not descend & swell; but if varicocele it will swell again - + keeping your finger on it -

between bubonocele & swelled Testicle ~ or Hydrocele ~ when swelled The Testicle is hard & painful, to the touch ~ is only found at the bottom of the scrotum ~ & the spermatic chord may be traced to the abdominal ring ~ at which place it is free from swelling + ~ In Hydrocele the tumour begins at the bottom of the scrotum, & works upwards ~ the fluctuation may be felt in Hydrocele ~ & in swelled Testicle or Hydrocele, we cannot reduce the tumour by squeezing it or alteration of position + ~ But Hydrocele is sometimes more difficult, wh when the patient strained hard, it was protruded ~ The testis was at the bottom of it ~ Hydrocele is in general ~ a case of this kind came under my notice, was supposed to be hernia, & as such was treated ~ I was convinced on examining it, that it was Hydrocele ~ It was , admitting the light to pass thro' the tumour ~ & was cured by tapping ~ & afterwards by the injection of vene ~~ In the lumbar abscess, the matter passes from its seat in the Psoa muscles down under Poupart's ligament following the course of the muscles ~ and forms a tumour on the anterior & superior part of the thigh ~ at which place the fluctuation can be felt ~ & the tumour can be pushed from the thigh up to the cavity of the abdomen ~ & vice versa according as pressure is made on each ~ if your hand be laid on the abdomen & pressure made, the tumour on the upper part of the thigh will be made more full & tense + ~~

The great danger arising from hernia, is from inflammation, which

+ When the omentum is protruded it generally goes up at night, when the patient is in a horizontal posture, & returns again in the morning, when he stands erect – it is always advisable to begin the treatment of this disease as soon as possible – if taken in the stage I have just mentioned, it may be easily cured, but when suffered to remain any length of time, it then ceases to go up at night – but gradually descends lower down – without some measure is taken to prevent it – women are liable to suffer in this disease from their delicacy in concealing it a long time –

+ The Truss is composed of a long slender steel spring, with a pad on one end, & on the other a strap – & one strap to go under the perineum – the spring reaches half round the body – the strap that goes under the perineum is to prevent the truss from slipping up – It should be kept on both night & day – In children a cure may be sometimes performed in 9 months – & generally in young persons, two years will be sufficient, but old people should continue them for life –

+ Hernia is divided into three kinds – 1st Those which require an operation to reduce them – 2nd Those which are reducible without an operation – 3d such as are irreducible by any means whatever – 4th

which arises from stoppage of circulation, & of the fæces, on account of a stricture coming on — This stricture may be formed, either by the neck of the sac, or by the tendon of the external oblique muscle —

When the existence of a rupture is ascertained — it should be reduced, & supported by a truss — not unfrequently the patient can reduce it himself — but when he cannot — the Surgeon by laying him on his back, in a horizontal position, for the most part can effect it — after wh a truss should be applied over the orifice — The truss is most generally applied on a soft part of the Pelvis, so as to press the spermatic chord, giving great uneasiness to the patient, if continued any length of time, or applied so far to the groin, as not effectually to close the rupture — The best way is to examine with your fingers, tracing the tumour into the abdomen — & when you find the orifice, apply the truss, so that the soft part shall exactly cover it, just above the edge of the Os Pubis —

Trusses are mostly used, only for a particular age, but they should be employed when necessary at all ages —

Strictures sometimes prevent the reduction of the protruded parts — but we cannot always reduce them, even when there is no stricture — & this for several reasons — 1st — Because too large a quantity of bowels have collected in the tumour, to admit of being returned — 2nd — The next difficulty in the reduction of the part, is from an of a part of the omentum — and

+ 4th it is prevented from being reduced, by small chord like ligaments or bands being formed –

+ Mr Cooper has succeeded by applying pounded ice & confining it to the sac in a bag.

+ The bowels should be always kept gently open, all violent exercises, such as jumping running, riding on horse back, or in a carriage over roughs roads should be avoided.

1

+ The circulation is in a measure stopped, & the tumour becomes livid, in consequence of the venous blood not being readily returned – if the circulation be entirely stopped, mortification will take place if not relieved – the part however first becomes swelled, & painful, with tension & hardness from the contraction of the abdominal ring. The body is bent, the pain is attended with intermissions of ease, sometimes death occurs in a few days, at others it occurs in a few hours – When mortification has taken place, it may be easily known, by being attended with a hiccough, the extremities cold, cold & clammy sweats & pulse circular, when the tumour is examined, it exhibits a dark appearance owing to effusion of blood – The intestines when examined exhibit a coffee or dark brown colour, they are also sometimes attended with ulcerations & holes; when the countenance alone is affected, the danger is not so great – The patient is unable to void his fæces by stool – the stricture which occasions all these distressing symptoms is commonly at the abdominal ring, caused by the tension of the transversalis muscle – Sometimes tho' the stricture is above, & not at the ring – the stricture then is at the upper apperture of the ring, or where the spermatic chord first enters the muscles –

+ which may be stitched up & the muscles cut off close –

and 3rd — From adhesions taking place between the protruded parts & sides of the opening — or from the adhesions of the protruded parts between themselves — When the difficulty of reduction arises from adhesions, as in the last case — it will admit of no remedy — besides being supported by a truss + —

When there has been no adhesions, & large quantity was down — I have succeeded by confining the patient to a low diet, horizontal position, bleeding, cathartics &c — & then apply a truss + — When adhesions take place so that the Surgeon is not able to reduce the tumour — a sac, made just so to contain it, & passed over the shoulders should be applied, or else the Hernia will continue to increase till it gets to a great size — I saw one, once in which the lower part of the sac, reached down to the knee + — If the patient in such situations neglects the truss — he is not only in great distress — but in great danger of strangulation —

Symptoms of strangulated hernia

1 — are an increase of hardness, swelling & tenseness of the tumour, from before being soft, obstinate costiveness, pain of the patient, standing up, hard, contracted & tense pulse, & sometimes nausea & vomiting, & the tumour becomes painful to the touch + — When called to a patient of strangulated hernia, it requires immediate care & attention — In proceeding to return the protruded parts, the patient should be placed, in that situation, which will throw the contents of the tumour towards the abdomen — he should be laid on a firm bed or matrass, with his buttocks raised considerably highest, & the thigh bent on the body to relax the muscles & that it may return by its gravity —

when

+ you should be careful to push upwards & outwards, towards the superior anterior spinous process of the ilium, but be particularly careful not to push so hard as to injure the contents of the sac –

+ but cathartics should not be used when the symptoms are immediate & violent – but when they come on chronically; i.e. they are useful in the chronic but not acute state of hernia – by discharging the feculent matter which mostly accumulates in the intestines & increases the symptoms – they never do harm when the omentum only is down

+ Its temperature should be 100 degrees – Sometimes cold bath & cold applications are used – but they are not of much account –

+ half the quantity should be injected at a time, & the next half put in half an hour –

when this is done, squeeze the protruded parts cautiously with your hand, so as not to injure the bowels + when the patient can do it it will be best, as he will be likely to use less violence, so as not to injure any of the parts —— This operation is called the Taxis — if this is not sufficient you may try 1st bleeding very copiously, as it has succeeded — Mr. Poot continues it ad deliquium animi — & then trice if it can be accomplished — the bleeding tends to prevent any inflammation — I have not seen one case, where the Taxis succeeded immediately after bleeding ad deliquium — 2nd Cathartics are then generally given — I have seen crem. Tartar with about 8 or 10 grs. of jalap, & one drop of olium mentha answer very well + — 3rd along with them the warm bath should be used — the patient kept in, till he becomes very sick & whilst in the bath the Surgeon should try again to reduce it — This from producing a general relaxation, will I have no doubt frequently succeed + — I have therefore a very favourable opinion of it in strangulated hernia ——

When all these remedies fail, an injection made of a decoction of Tobacco ℥i. to a pint of hot water may be used — This is to be thrown up, so as to occasion a nausea, & general relaxation + — This is the most successful & principle remedy in strangulated Hernia + — The fumes of Tobacco are not so convenient, since they require a peculiar apparatus; & sometimes they excite spasms ——

When

+ if we have notice, dissolve equal quantities of crude nitre & salammoniac in 16 ℥ of water, which will answer very well — these sometimes succeed in lessening the tumour so much, that we are enabled to reduce it by taxis — but should not be continued too long, as it has sometimes frozen the parts, & thus produced mortification —

+ should all these fail, our last resource but one is opium — given in large doses — as gr. 2 — by the mouth; & by injection —
° which consists in dividing the constricted part —

+ The tumour has a crackling feel —

+ soreness, swelling & hiccough, have been thought signs of mortification — but they are not always so. It is said that mortification takes place in a few days, after a hernia strangulates, if not relieved — but this is a erroneous — for I have seen strangulation continue 15 or 16 days, or even 2 or 3 weeks, without mortification taking place — but I have seen strangulation prove fatal in 8 hours —

* The operation is forbidden when the patient has ghastly countenance, pulse weak, extremities cold &c — but it may be done even after these symptoms appear — In old people, it is more dangerous, than in young, & less dangerous still, when the hernia is of short standing — tho' when of long standing, when the structure is not removed — inflammation, tense belly, contracted pulse, spirits depressed, & when still worse, mortification comes on, & a general cold with moisture, is the general precursor of death — it will then be too late to perform an operation —

When all these applications fail, the application of cold, as ice, or snow, have proved successful. This remedy is particularly recommended by Mr. Wilmer. I would not hesitate to employ it when the other remedies fail. It should be continued for some time, perhaps for the space of 3 or 4 hours, if necessary. If all these remedies fail, we must have recourse to an operation, for if the patient is not relieved by some means, he soon grows worse, the sickness becomes more distressing, the pain becomes more intense, the belly swells; the fever runs high, hiccoughs & cold sweats ensue &c. But after a while the symptoms cease, & the patient thinks himself getting better, & in some instances, the contents of the tumour, voluntarily go up. But the symptoms soon return with increased violence, & death quickly closes the scene, from Mortification of the intestines.

It is difficult to tell when is the exact time to perform the operation, because the bowels sometimes mortify by their pressure in a short time, & in other cases, the patient will bear it for 3, 4, or 5 days, & then get well. But in general I would advise it, when the above remedies fail, to perform it, at the most, within 36 hours from the commencement, if the symptoms of strangulation remain. I have once succeeded in reducing a tumour after all other remedies, by raising the foot of the bed considerably highest. In this case, the tumour receded in the course of the night.*

There

+ or first place the patient on a table, covered with 3 or 4 blankets – & his head elevated by a pillow –

+ beginning about an inch or inch & a half above the tumour – in cutting down it should be dissected, layer after layer – as the spermatic cord is sometimes before the tumour –

+ before dilating the structure –

There are two methods for operating for Hernia — and 1st — of Bubonocele — In proceeding to perform this, the first precaution is, to shave away the hair — then make an incision, in the direction of the tendon of Poupart's Ligament, of about 4 inches in length — & dissect the upper part, laying the tendon of the external oblique muscle bare, so as to expose the ring — this done, puncture the tendon, in a transverse direction of the fibres, at a small distance, about an inch, from the ring — a director is introduced at the puncture, & passed out at the abdominal ring — The part of the tendon over the director, is divided lengthwise of its fibres by the knife pushed along the groove — an attempt is now made, to reduce the protruded parts by taxis — This practice has been disapproved of by some Surgeons, who say, that the contents of the sac, may be in such state, as to forbid reduction, & that the sac should be opened, to examine its contents — for, say they, if any of its parts be killed, or the sac contain acid serum, & be returned in this state into the abdomen, it will occasion great inflammation — But I would ask these Surgeons, if they would not, before the operation use every effort to reduce it — & in the present case if it can be reduced, it will prevent the necessity of opening the sac, by wh, the risk of peritoneal inflammation will be avoided — opening the sac would produce a communication for the air, into the cavity of the abdomen — & all such communications will be attended with

+ pulling the contents down to examine them –

‡ If the intestine & omentum be both contained in the sack, the intestine should be returned first –

+ in shape & texture –

+ This to be made directly upwards to avoid the Epigastric artery, or upwards & outwards –

with most violent inflammation, which mostly terminates fatally on the third day or sooner — Should the attempt to reduce the protruded parts in the sac be ineffectual, the operation must be continued — The incision is made in the direction of the tumour to the bottom of the scrotum, & the sac is laid bare — after this attempts to scratch thro' the sac should be repeatedly made with the point of a lancet, or scalpel better — trying with a probe after each scratch, to see if a puncture be not made —

When a puncture is made, introduce a director, & with a blunt pointed bistoury enlarge the orifice, so as to introduce the finger, wh is the best director for the knife — when the sac is divided thro' its whole extent from the ring — next examine the contents of the sac, wh if sound, must be carefully returned into the abdomen. — This at times cannot be done for 3 reasons — 1st — Adhesions — 2nd — a change in some of the protruded parts — or 3rd — a stricture in the neck of the sac — When it cannot be done on account of a stricture in the mouth of the sac, the stricture is to be divided taking care not to wound the intestines — The finger should be introduced as far as possible, as a director to the knife — & in general the mouth of the sac is not so small, but that the point of the finger may enter a little way —

Sometimes adhesions take place, so that the intestines cannot

‡ carefully spreading the omentum out, to see if any of the intestine is contained in it. we should take care not to leave any dead portion adhering, as it would excite suppuration in the living parts –

+ It is sometimes difficult to tell if the contents are mortified – sometimes being intensely black we would suppose them mortified – but this is not a certain symptom of mortification – but you may always tell – by cutting or tearing the parts a little – if mortification has taken place no blood will be effused, the dead part always coagulates the blood – but if blood effuses – mortification has not taken place, tho the parts may be ever so black – & should be returned into the abdomen –

+ see page 209 –

+ a mistake – the Epigastric artery is on the inside of the sac –

cannot return — when the sac is laid open, these can be easily seperated, either with the fingers, or with the scalpel handle —
If the protruded part is altered in shape, the ring should be dilated, to admit of its return — except it be formed of omentum — then the altered part may be cut off + — If mortification of the protruded part has taken place, it should be seperated, & the sound part of the intestine joined by the interrupted suture, & sewed fast to the sides of the wound — notwithstanding the feces will for some time escape, it mostly heals well + —

Altho' in Bubonocele, it is best not to open the sac, when it can be avoided — yet in Femoral Hernia I think it best, & mostly safest to open the Hernial sac, & then divide the stricture — The sac here is extremely thin, & scarcely to be seen —
+ In proceeding with this operation, Femoral hernia a good deal of caution is necessary, to avoid wounding the intestines — When cutting near the neck of the sac, care should be had not to bear to either side — because on the outside of the hernial sac, lapses the Epigastric Artery — & on the inside of it, the spermatic chord, crossing each other directly over the stricture, so that, if you cut toward the inside, you will wound the spermatic chord — & if to the outside, the Epigastric Artery — & if posteriorly, the great blood-vessels — To remedy this Mr. Gimbernat proposed to dilate the stricture, by making the incision toward the Pubis — This method is, after opening the sac, to introduce a director, or

the

& they say the stricture is never at the mouth of the hernial sac in inguinal hernia but I know the mouth of the hernial sac does form the stricture sometimes — & in this case the ring will be seen laying round it —

the finger, which is better, along with the bistoury, having its edge looking toward the Pubis, when you come to the stricture, the incision is to be made toward the pubis, deviding the stricture so as to cut behind the spermatic chord ~

Dr. Monro & Hey advises to cut from the neck of the sac towards the navel, so that by keeping that direction, you might dilate the stricture, toward the angle formed by the Epigastric Artery & spermatic chord, & thereby avoid cutting both ~~

Mr. Hay supposes, that the femoral ligament, forms the chief obstruction to the reduction of the protruded parts ~ I would advise you to read both Hey & Cooper + ~ Sometimes the finger cannot be introduced, on account of the smallness of the Aperture ~ when this happens, introduce a director, under the stricture, & then with a blunt pointed bistoury, lay it open, sufficiently to reduce the protruded parts ~~ If the protruded parts be found in a gangrenous state, that part must be removed, taking care to cut thro a sound part, so that the dead portion may be completely seperated, & the sound part stiched to the side of the wound, so that the intestine may protrude about an inch, the protruded parts will in time, as the wound heals, withdraw themselves within the abdomen, & as they are drawn in, the edges will come nearer in contact, till at last they will unite, & form a perfect canal, completely within

the

* tho' it is best to return it into the abdomen - if there are a few mortified spots in it.

+ The operation should not be performed, when mortification has commenced - this may be known by the pain being lessened, tension of the tumour subsiding - a cracking noise may be heard - abdomen tense &c - the pulse weak, large and small - hiccough - see page 210 the treatment of the omentum. -

+ which is called anasarcous -

the abdomen — & the patient will discharge his fæces in the natural way — Sometimes the omentum is found in a state of sphacelation — it should never be returned so within the abdomen, or else the dead portion will cause peritoneal inflammation — The folds must be spread out, to extricate the intestines, & the mortified parts may be cut off with a pair of scissors — If an artery be wounded or divided, it must be taken up, leaving the thread of sufficient length to reach out of the abdomen — Mr. Hey has proposed taking off this portion with a ligature — tying it so tight as only to the omentum at first — & then daily tighten it, till it at last, is completely separated — & when the gangrenous part is pushed thro' the abdominal ring — this method is a very good one —

Hydrocele — This is a term applied to a preternatural collection of water in the Scrotum — Of this disease there are three species — as follows

1st — An effusion of water in the cellular substance of the scrotum —

2nd — When the water is contained between the Tunica Vaginalis and Testis —

3rd — Is when it is contained in a cyst or cysts attached to the spermatic chord, or body of the Testis — The first which is an anasarcous tumour, is a symptom of universal dropsy, & is easily dis

tinguished

+ The tumour is equally divided by the raphe — sometimes the cellular substance of the penis is affected —

+ It generally affects only one side at first —

+ 3d The spermatic chord is felt at the ring in hydrocele —

distinguished from the other species of Hydrocele — It is a smooth equal tumour, & is diffused equally all over the scrotum involving both testes — The tumour has a doughy feel — besides indentation may be made by pressure with the finger — the skin is nearly of its natural colour, & diaphanous + — If the patient lies down no diminution of bulk takes place in the tumour — The swelling begins at the bottom of the Scrotum — The Testicle can be easily felt at the beginning of the disease, & also the spermatic chord, & no fluctuation can be felt —

The 2nd kind, or that when the effusion is confined in the Tunica Vaginalis, is owing either to an increased action of the exhalent vessels — or some say, a decreased action of the absorbents — the swelling in this species, begins at the bottom of the scrotum, soft at first, but gradually becomes more tense, & cannot be reduced by pressure — Tho' sometimes it collects suddenly from the rupture of a lymphatic vessel — the tumour is small at first; in which case the testes can be readily felt, but when the tumour is large it is not perceiveable — The fluctuation is very discernable, & the tumour is diaphanous —

The disease most likely to be compounded with it, is hernia — 1st as in the former, the tumour begins at the bottom of the scrotum, & extends upward — but in the latter it begins above, & extends downward — 2nd Hydrocele is always permanent, whereas hernia disappears, when the patient lies down + —

Schirrus

* about the second or 4th month ‡

we find umbilical hernia in 3 forms

1st In children just bor in infants more advanced in age

+ It is distinguished from cysts on the chord, from its being felt lower down — on adults — then use Marsons truss —

‡ In this state it may be cured by compression by emptying the sac & applying a bagatelle till the part slough off —

+ to distinguish it from hernia — a puncture on the side will evacuate the water — this will put the matter out of question +

Schirrus of the Testicle, has sometimes been confounded with it — we can distinguish between them, by the former having a hard, swelled spermatic chord, & surface unequal — & the testicle is flattened & heavier than in Hydrocele — It is scarcely possible to confound it with hernia humoralis — This kind of Hydrocele is however very complicated — so as to require much attention to distinguish between it & other diseases ——

The 3rd — Species, is when water is contained in one or more cysts attached to the spermatic chord — Then the Testicle can be felt at the bottom of the scrotum — The tumour is — a fluctuation is felt & swells up toward the abdominal ring — & in one case I believe the tumour extended thro' the ring itself — In such cases there is much difficulty — ~~only~~ if we press the tumour so that the water is forced into the abdomen, the instant we take away the pressure, it will return again ——

Having mentioned the different species — I shall next begin with the Treatment —— No inconvenience results to the patient from hydrocele, except on account of the weight & bulk of the tumour — tho' in hot weather, the skin at times excoriates — & if the patient walk about, causes pain in the back, from its weight — this is relieved by the use of a suspensory bandage, wh. sits so easy, & is worn with so little inconvenience, that some patients refuse to submit to an operation ——

The 4th — Species — or anasarcous hydrocele, is generally

+ or of a cyst on the spermatic chord & the effusion of water into the cellular substance

generally cured by means of medical aid, & not by any operation — it however happens, at times, that an operation for the discharge of fluid, is necessary for the cure — This I would advise to be done by making small punctures with the point of a lancet thro' the skin, so that the water may ooze out — This is preferable to making an opening with caustic, or the introduction of a seton — or the making a deep incision, wh may produce mortification — The punctures are to be covered with dry lint — they should be made in four or five places — about an inch apart —

Sometimes an anasarcous is produced, from a bursting of the a hydrocele of the T. Vaginalis — a case came under my care, of a gentleman, while sitting still, felt something snap in his scrotum — shortly after a tumour appeared, wh soon diffused itself generally all over the Scrotum — The skin became black, wh very much alarmed the patient, as he supposed mortification was coming on — Three Physicians were called in, who not knowing the nature of the case, were doubtful that his apprehensions were too well founded — Dr. Physic supposed the T. Vaginalis was ruptured — & that the colour was owing to the escape of the blood — This opinion was immediately agreed to, & the patient was informed, that in time the blood would be absorbed, & the T. Vaginalis heal — but that he would be subject to a return of the complaint — all of wh turned out, as it had been predicted —

Hydrocele of the Tunica vaginalis — Dr. Elbe

mentions a case of hydrocele of the T. vaginalis wh was cured

+ & Dr. Shippen cured one case by drastic purges -

+ In one case I knew a hydrocele brought on by a stricture of the urethra - & was cured by removing the stricture - In another case there was a collection of water & with an enlargement of the testicle - bleeding, purging, mercury, low diet & punctures to draw off the water every 3 weeks, accomplished a complete cure in a person who would not submit to the operation -

+ & a canula introduced into the incision - the canula is necessary to keep the vaginal coat & scrotum in contact - if no canula is at hand - a director or probe will answer the purpose - some one of these should always be used, or the urine will flow into the cellular membrane & form an anasarcous tumour -

+ & thus obliterate the cavity -

+ this is done in two ways - some advise it to be made, beginning at the top & cutting to the bottom as deep as the T. vaginalis - after laying this bare a hole is to be made suddenly thro' it large enough to admit the finger - & then enlarge it by cutting - we shall be enabled in this way to examine the testicle & if any small cysts be performed - they may be opened, it is then the custom to stuff in lint - Sometimes the T. vaginalis is thickened & indurated. in such cases it is advised to cut it off - but I never met with a case in which this was necessary - This operation commonly excites great terror in the patient as well as great pain - the exposure of the Testicle is apt to occasion pain in the back & stomach - The old surgeons cut away a portion of the T. vaginalis -

when recent
cured by purging+ — I have cured it by causing cold water to be spouted on it, out of the spout of a teakettle 3 or 4 times a day — This method will often succeed in children — & sometimes it is absorbed without any aid+ — When all these fail it is necessary to have recourse to an operation — Relief may commonly be had by evacuating the water — This is done by means of a common lancet, wh I prefer* — or an instrument called a Trocar — wh consists of a silver tube, in wh is a stillett projecting about 1/4 of an inch beyond the canula — wh part is of a triangular form, & sharp for cutting — The Trochar is to be pushed thro' the scrotum, into the cavity of the T. vaginalis — when it is introduced, the stillett is to be withdrawn, to suffer the water to pass off — After that is done, the wound is dressed, by applying a piece of adhesive plaister to it — & the part supported by a suspensory bandage — This is only palliative — & is not sufficient to produce a radical cure — but to effect this something more must be done —

There are several modes of effecting a radical cure of which I shall now only mention four — The object of them all is to effect an union, or adhesion between the sides of the T. vaginalis+ — The most Ancient of these is to make a long incision thro' the scrotum, so as to examine the state of the Testis* — when it is ascertained to be free from schirrus — lint is placed in the cavity of the T. vaginalis, to excite an inflammation of the parts, so that the two surfaces may adhere together — The lint is

to

+ partly by the contraction & partly by adhesions –

+ It is put on, made into a paste & kept there by adhesive plaister – extending from the top to the bottom of the tumour or scrotum & suffered to remain till it gets thro' the skin & tunica vaginalis – but this it seldom does – Mr. Pott says, & that it is always necessary to finish the division with the scalpel – but
+ & we are also unable to examine the state of the Testicle –

+ A scane of silk is put into a needle fitted in a canula, an opening is then to be made with a Trochar, & withdrawn, & the canula & needle is to be introduced into the canula of the trochar, passed to the bottom of the sac & the needle pushed thro'; the canula is then to be withdrawn & the silk left in the part – then apply as a dressing a bread & milk poultice – in a short time inflammation, suppuration & adhesions of the part will take place –

+ & we are debarred from examining the testes –

to be left in, until suppuration takes place freely — then it is to be extracted, when the granulating surfaces of the cavity adhere, & obliterate it — This most frequently succeeds, but it causes great pain, & inflammation — & it not unfrequently happens, that abscesses form, after the patient is thought to be well — I have seen abscesses form in the scrotum, in consequence of some portion of the cord being left behind, six weeks after the wound had healed up —

The 2nd — Method is by means of an eschar formed by caustic — this is not only attended with great pain, & inflammation — but produces a large suppurating sore, to the no small distress of the patient — Mr. Ellis has proposed to put it only of the size of an English shilling; wh he thinks would be sufficient to excite inflammation over the cavity — but this often produces violent inflammation of the whole scrotum, & sometimes mortification — This method however is seldom employed at present —

The 3rd — Method is to pass a seton thro' the scrotum & T. vaginalis Testis — This method is recommended by Mr. Pott — but it is exceptionable — because the adhesions will sometimes take place only at the junction of the seton with the T. Vaginalis — & then the disease may again occur — & likewise when there are cysts on the body of the Testicle, this treatment will not do — & these cannot be cured without laying open the T. Vaginalis & the cure must be effected by suppuration —

Mr. Earle

+ holding the orrifice open with one or two hooks – a piece of lint was put over the incision or orrifice, to prevent the dough from being forced out.

+ keeps the T. vaginalis distended from the testis – inflammation is commonly excited the day after the operation +

Mr. Earle has revived the method of throwing stimulating injections into the T. vaginalis — He uses wine, diluted 1/3 of water — This I have always used — some advise a solution of vitriolum album — I have no doubt but it would answer very well — others have advised a solution of corrosive sublimate — but if this be used, it should be employed very weak — After the water has been drawn off, a solution of wine may be thrown in the vaginal sac — this will sometimes cause a great deal of pain across the lumbar region — I has produced syncope — It should soon be letout, perhaps after three or four minutes — inflammation will come on in three or four days, but never runs very high, I subsides soon without any trouble — If it run very high V. S. may be proper — frequently on the cessation of the inflammation, the water again returns — In all the cases of this kind, I have cured by pouring cold water on the part, to about the quantity of half a gallon a day — When the first operation fails, it is not so severe, but that the patient will bear the operation a second time — When one or two injections will not do, Mr. Hunter proposes to make an incision about an inch or inch & a half long, on the anterior & upper part of the scrotum, so that the finger may be introduced, to ascertain if there be any hydatids within — I to fill the vaginal sac with flour, or small boluses of dough, instead of lint, to cause an equal ~~suppuration~~ inflammation in the whole surface of the cavity — After four or five days, suppuration will have taken place

place; at which time the dough will have become soft, so as to resemble, only thicker pus, in consequence of mixing with the fluids thrown into the cavity — The contraction of the scrotum which takes place, will force out the dough gradually — & as it is removed or evacuated, the sides are brought into contact regularly — adhesion takes place, & the cure is completed — I have performed this operation — & believe this to be the best method of curing the complaint — I now shew you the operation of injecting the wine —

The Instruments are — a Trocar, which consists of a silver canula about 3 inches long, with a small handle to the end of it — In this tube is a stilette, projecting about 1/8 of an inch beyond its end — a cock with a bladder, or gum Elastic bag attached to the end of it, for containing the injection — The patient is seated on the edge of a chair, & directed to grasp the bottom of it with his hands, because if his hands are at liberty, they will be apt to disturb the Surgeon — When fixed in this manner, so that the scrotum projects over the edge of the chair, the operator takes hold of it, & causes a tension of the tumour where he would wish to make the puncture — & then pushes the Trocar — as soon as the instrument has penetrated the cavity, the stilette is to be withdrawn, & the canula is pushed farther into the cavity, to prevent the T. vaginalis from slipping off the tube, which would prevent the water from passing out — When the water is drawn off, an injection

of

+ you should keep your thumb & finger applied to the scrotum & round the canula when it enters to prevent this –

+ & to ascertain where about it is situated –

+ that is a kind of sackiness

of Port Wine is thrown in, detained a short time, & then suffered to run out — the wound is closed with adhesive plaister — The scrotum is suspended, & the patient put to bed — Care must be taken to keep the canula thro' the T. Vaginalis when you inject, or else the whole of the contents will be thrown into the cellular substance, without effecting its way into the proper place — wh will produce a sloughing of all the parts into which it is diffused — & a subsequent Operation will be necessary —

Care should likewise be taken to examine well, where you punctture the scrotum, to avoid wounding the Testicle, wh two often happens — A Gentleman troubled with Hydrocele called a Surgeon to his aid, who performed the usual operation with the Trochar — but to his great astonishment, no water flowed out upon his withdrawing the Stilette — Another Surgeon, was called, who likewise performed the usual Operation near the same place — but with the same success — A third one was called, but met with the same disappointment — They now agreed it was a very difficult case to understand — Mr. Hunter's aid was then required, who upon examining the case, & recollecting the peculiar sensation which the Testis gives when squeezed, tho' he could not feel its situation — yet by the sensation produced by the squeeze, he found the Testis attached to the Anterior part of the scrotum, just where they had made the punctures — The Trochar had been pushed into the body of the testis — He then pierced the scrotum

at

at the lower & back part of the tumour, where the testis usually lies — & the water flowed out as it usually does in common cases —

Rupture of the Tendo Achilles —

It is sometimes ruptured in consequence of a violent exertion, or spasm of the muscles, of which it is a continuation — in jumping & alighting on the toes — When the Tendon has been ruptured, the patient hears a sound, like that of the smack of a whip at the moment of occurrence — & the patient supposes some person has struck him at this place — There is a sudden incapacity of standing or walking, tho he may walk sideways — hence he always falls down & cant get up again — no pain — there is a depression between the ends of the Tendon, which is increased when the foot is flexed, & diminished when extended — the patient can bend & flex the foot, as none of the flexors are interested —

The indications are to bring the ends of the divided part together, & to keep them so untill they have firmly united — the first object is fulfilled by extending the foot — the second is more difficult — Dr. Monroe used a laced stocking & slipper &c in his case — but this does not prevent lateral motion — An assistant should push down the gastrocnemii while a bandage is passed from the knee, to within 3 or 4 inches of the rupture — I apply a case then carved out of wood, made to fit the anterior part of the leg & foot when the foot is extended — pass another bandage from the toes till you come to the rupture, the hollows on each side of the Tendon being filled with lint pass it tightly over it up the leg — the first bandage should not be passed so tight as to induce swelling — when it is divided by a wound, attention should be paid that the skin does not get between the divided ends — The ancients maintained the ends in contact by means of a suture — but this is never necessary — The leg should be flexed on the thigh to relax the muscles — after the union you will observe a knot at the place of rupture, but this will soon disappear — It will unite in 3 or 4 weeks — but the patient should not use it much for 4 or 5 months —

A Rupture of some of the fibres of Gastrocnemii sometimes takes place, just where it joins the Tendon - the patient is often sensible of a crack at the time of rupture - appears as tho some person had made a stroke there - Treated just like a rupture of the Tendon - should keep the dressings on 5 or 6 weeks, or untill every inflammatory symptom has subsided - an Echymosis sometimes takes place from the vessels which are ruptured, but it soon subsides - from improper treatment the patient has been lame for life from this accident & therefore demands great attention -

Disease of the Hip joint - or Morbus coxarum -

This should be carefully investigated into, as it may occasion great uneasiness & lameness to the patient - It generally comes on before the age of fourteen - & first commences with a little lameness & pain - or an awkard gate; the patient throwing the body on the sound side - the pain sometimes appears on the outside of the knee, which is apt to deceive you, with respect to the seat of the disease - it mostly comes on in paroxysms - patient rests badly at night - is sometimes accompanied with emaciation or falling away of the patient - but this is not a necessary concomitant; but on the contrary they remain in perfect health; on examination the affected limb is longer than the other; this is occasioned principally by the patient, bearing the most of his weight on the sound side, which produces an inclination of the pelvis; which may be easily discovered by laying a stick across the spine of the Ilium - if it be horizontal the pelvis is in its natural situation - The diseased limb after some time becomes smaller than the sound one, & occasioning very severe pain at the knee at times as well as at the part affected, in which without attention I say we may be deceived, & induced to pay attention to the affection (supposed) of the knee instead of the seat of the disease, the hip joint; but the error may be easily detected, for on examination we will find it sound, & not discoloured or swelled, & all its flexors & extensors

are

are performed without increase of pain; sometimes the diseased side of the pelvis is depressed, which may induce us to believe the spine is affected, but we may be convinced of our error, by placing a stick on the spine of the Ilia as mentioned before — when this disease has continued sometime, the buttocks loose their proper shape & become flattened, & pressure on the part is insupportable — This disease is occasioned by bruises on the hip, jumping, running & all violent exercise of the joint, & is sometimes attended with fever — The thigh from being first longer, now becomes actually shorter than the other, this is occasioned by the head of the os femoris being dislocated — (Desault a french surgeon of eminence) mentions two cases of a dislocated thigh, by a tumefaction of the surrounding parts: The cause of its shortness, is, that it is generally dislocated upwards & backwards; tho I have seen one case where it was dislocated downwards into the foramen Thyroideum — but generally before this happens a collection of matter takes place, which corroding the head of the femur, it is absorbed, motion at this time is attended with great pain, & hectic fever is apt to supervene — The most fortunate termination of this disease, & that which is the most to be desired, is, that an anchylosis may take place — when this does not happen, the caries continues, & the patient is wasted down — If the head of the femur is not thrown out of its place, the acetabulum sometimes becomes absorbed, before anchylosis can take place — at other times when the head of the bone is thrown upwards, on the brim of the pelvis, it forms a cavity, & an artificial joint is made ——

If the remedies which I shall recommend, be resorted to soon, they may cure the disease — 1st a machine fixed with straps to lie round the leg — round the thigh & round the pelvis — to keep the joint perfectly at rest — bleeding in plethoric habits — mercury — sea bathing &c — & those remedies used in scrofulous affections, but are seldom attended with success; another set of remedies, which I think have proven more successful in my hands, are blisters or issues about the joint; but none of them have proved so successful in my hands, as purges of Jalap & cream of Tartar every other day — I have seen them useful, even in emaciated patients, & the patient seemed to grow stronger & fleshier under the use of them,

but

but they should be discontinued, if they appear to debilitate — a warm bath of salt water should be used twice a week — I once had a case who was cured by purges, the patient relapsed, & was again finally cured by the same remedy — when suppuration has taken place, the patient should use a nourishing diet — I think it never advisable to make an incision, but suffer the abscess to break of its own accord —

The disease consists of an inflammation of the bone, which is extended to the cartilages, which being removed by suppuration, the bone either dies or becomes carious — Sometimes the progress of the caries is stopped, absorption takes place, & an anchylosis formed, to the great relief of the patient ——

Femoral Hernia takes place in the upper & inner fore part of the thigh under Poupart's ligament – the rupture descends between the artery & vein & pubis – In females the protruded parts descend in the aponeurotic sheath of the thigh – in males the structure is formed by the internal edge of the external oblique muscle at Poupart's ligament – It occurs much more frequently in females than in males, in consequence of the great breadth of their pelvis – The tumour formed by femoral hernia, is generally small – frequently not larger than the end of the thumb – & rarely large than an egg – It is important to bear this in mind – for it is likely to be mistaken for an enlarged lymphatic gland – & whenever a patient complains of the usual symptoms of a strangulated hernia – particular enquiries & diligent search should be made – the history of the case should be learned – & if a tumour of this kind is found to exist; with the usual symptoms attending strangulated hernia, corroborated by the history obtained – the surgeon should proceed immediatelly to the reduction by taxis – aided by all the remedies spoken off to favour the reduction of inguinal hernia – bearing in mind that no time is to be lost – for fatal terminations are quicker here, than in inguinal – & that structures too, are apt to follow its immediate descent, from the narrowness of the aperture thro which it passes – we should therefore be prompt in resorting to the operation – The tumour is situated on the inner side of the external iliac vein – In reducing the tumour we should be careful to push the contents first backwards, then directly upwards – for the contents in passing down first descends in a right line with the body – then takes a turn & passes out at right angles with it – In performing this operation – it is necessary for us to be perfectly acquainted with the anatomy of the parts – The Epigastric artery crosses obliquely over the anterior part of the neck of the sac – & the spermatic chord on the inner & posterior side of the neck – & the obturator artery runs down on the inner side near the os pubis – occasionally deviating from its natural course – In performing this operation Mr. Gimbernat has advised to make the incision upwards – latterly & inwards – i.e. towards the pubis – this certainly would be the most favourable way to divide – was it not for the occasional course of the obturator, just mentioned – To obviate this Dr. Monroe & Mr. Ashly Cooper have advised to make the incision at right angles with pou-

Poupart's ligament in the direction of a straight line from the tu-
-mour to the umbilicus — But in making this incision we should use
very great circumspection — I not cut precipitately upwards for fear of
wounding the Epigastric artery — my practice is to cut in this direction
which I think is the best — cutting down with care to the fascia layer after
layer — I then with great attention divide fibre by fibre until the
structured part was exposed — I with the same caution divide it — In
this way we may perform the operation with safety — for if the artery should
be accidentally wounded — being on the anterior part of the sac, we may
succeed in taking it up — or suppose the obturator artery be wounded —
we may succeed in the same way — But in the cautious way I have
mentioned — there is no danger of dividing either — for by cutting a
fibre at a time we can always avoid either — He thinks the
structure is occasioned by the fascia given off from the tendon of the internal
oblique muscle —

When the Omentum is the protruded part, & is mortified, there
is no doubt but it should be cut off — when it is decided certainly to
be the case, it may be known by the appearances I formerly mentioned,
all arteries should be secured by ligature, & kept near the external
wound — Mr. Pott observes there is no danger in leaving the vessels —
but this I know to be wrong — for dangerous hæmorrhages have occurred —
In dissecting the dead part away care should be taken, not to injure
the intestine — It has been advised to pass a ligature round the
omentum — at the neck of the sac — & thus remove the whole by
stopping the circulation in the part — but the symptoms arising
from this practice are desperate — Mr. Pott once performed this opera-
tion of tying a ligature round the omentum — sac &c — but the result
was such as to prevent subsequent practice of this kind — sometimes after
the operation a ligature may be tied round the neck of the sac, not so
tight as to stop the circulation — but only to make the sides adhere, &
thus by closing the entrance into the sack, prevents a return of the
disease —

+ 2 or 3 otiethes —

after performing the operation - & contents reduced by taxis or otherwise - the wound is immediately to be united & kept so by ~~adhesive plaster~~ & the patient kept at rest & in a horizontal position - In a few hours a fecal discharge generally takes place - this however is not always the case - we should give a dose of castor oil - & if great pain - irritation &c. exist, we should administer opium - if the soreness - swelling &c does not ~~exist~~ subside - & if pain - tension of the belly come on with fever - we must ~~not~~ use V. S. purging - blisters to the abdomen - low diet - demulcent drink &c - sometimes after the operation, it is very difficult to procure a stool - I have known ℥ii of salts given, without producing this effect - after the wound has healed apply a truss -

Umbilical Hernia

- This is when the intestine is protruded at the umbilicus, where the vessels of the chord of the foetus, passed out of the abdomen - we meet with umbilical hernia under three different circumstances - 1st In children at birth - 2nd when it occurs some days - weeks - weeks or months after birth - mostly about the third or fourth month - 3d & lastly, when it occurs in adultage - - When we are called to the 1st species, nothing more is necessary - than to return the contents of the tumor - tie the umbilical chord as usual - apply a compress & bandage over the part - so as to retain the parts in their natural situation for 10 or 15 days, at which the time the sac will have adhered & the aperture into it perfectly closed -

In the 2nd kind Desault advises the contents to be returned, & then pass a ligature round the skin & hernial sac at the neck moderately tight - but sufficiently so, to occasion a little pain - In 2 or 3 days pass another a little tighter - in 2 or 3 more pass the third so tight as completely to stop the circulation - in this way the part will soon slough & drop off - leaving the parts similar in state to a simple ulcer - we are then to approximate the parts & confine them so, with adhesive plaster, compresses, & bandages &c - the part will soon cicatrize & no farther inconvenience will ever be experienced - great care however is to be taken in not including any of the contents of the abdomen in the ligature - we are enabled to ascertain this

this by feeling attentively, before the ligature is passed — In treating umbilical hernia by ligature in this way, a question of importance arises — should we be limited by the age of the patient — Celsus performed it on a boy 14 years of age — But Desault is of opinion, that it will rarely succeed permanently after the age of 9 months — it has succeeded at 18 months — & even at 4 years — But these cases are very rare — the parts at this age are so weakened by the operation, that a protusion is very apt to follow — even after cicatrization has taken place — I therefore think it most prudent not to perform it after this age — that is 9 months — for experience has proven that success is in an inverse ratio to the age of the infant, & that the younger the child the better ——

In adults it is advised to apply a bandage tight round the abdomen, to prevent the protusion or descent of the intestines — altho this may prevent the descent for the time, it is still undoubtedly very injurious, for by pressing the parts it enlarges the opening — It has been advised by some to apply a compress, & by others adhesive plaister, but these are all useless applications; the best thing that can be done, is to apply the truss, recommended by Mr. Mauison — it is made of two steel springs of a semicircular form, with their ends connected to a ring, from the sides of which, pass two smaller springs, running from the circumferance of the ring to the centre, to the end of which is fixed a compress, to press on the umbilicus — The long springs are made to press on the body, behind & before, only laying loose on the sides — — The same practice is requisite in strangulated rupture of this, as in other parts; an operation becomes sometimes necessary — we should then prefer cutting above the sac first, & not immediately over it, as in other hernias — The advantages of making it above, are 1st. we run no risk of wounding the contents, which is not the case if we make it on the sac, for sometimes by the pressure, the sac is made extremely thin — 2nd that we are enabled to dis-

dissect away the sac, from the surrounding parts, & find the stricture more easily — But it is still a more safe method, to cut into the sac, pass the finger to the stricture, & divide with a Bistoury passed along the finger, which acts as a director — after the reduction, pass a ligature, around the neck of the sac, not so tight as to stop the circulation in the parts, but merely to occasion adhesion of the sides — Dr. Dorsey sometime ago opened a sac, after all the common applications had failed of success, & found that no stricture was made by the neck of the sac or ring, but that the reduction was solely prevented by ligamentous bands, tying the omentum to the sac in form of rings, those were cut, & the hernia reduced, but the patient died in a a few days —

The varieties of Hernia

— Hernia is a disease of frequent occurrence — In some Countries they attack its Inhabitants in the proportion of 1 to 15 — authors have enumerated many varieties of them — as those in the vagina — & of the peritoneum descending between the rectum & vagina — In females the bladder is sometimes found in this situation — with its fundus turned down — another kind are those at the Ischiatic notch — at the aperture in the Diaphram, thro' which the œsophagus & blood vessels pass — and at the Labia pudendæ in females — & in the male in the direction which the Testicle descends into the scrotum from the abdomen in the foetus The sack is sometimes found in the Mesentery & mesocolon — sometimes in the small of the back in the form of a tumour, & is commonly occasioned by the protrusion of the kidney — a sac may be formed, by the wounding of one part of an intestine around another; or by the protrusion of the inner coat of the intestine, thro' a rent made in the external thus appearing like an appendix or process from the side — The contents of the sac varies — there is sometimes more than one sac, contained in a large one — Dr. Monroe mentions a case, where there were as many as 4 of these sacks — Their thickness varies ~~varies~~ considerably; in old hernias, or where their contents

contents are large in quantity, their sides are very thin - the sac is sometimes on the outside of the Epigastric artery in Inguinal hernia, tho commonly it is on the inside - In a hernia, when the bladder is the part protruded occasions or forms no sac, because it is below the peritoneum - This is also sometimes the case in umbilical hernia - It is also sometimes the case when the cæcum is protruded - sometimes the seat of the stricture may be known by the sac, laying loose from the surrounding parts - The French surgeons doubt whether this ever does take place - while on the other hand the English assert, that it does - For my own part, I am of opinion that it sometimes does, for I have myself seen more than one case where this happened -

Schirrous Tonsils -

These should be removed, & it is best to cut them off with a pair of curved scissors, when the base is small, but when large it is painful & attended with some difficulty - we being necessitated to make several incisions before the operation is completed - For at the 1st cut the blood flows out, coagulates & hides the Tonsils - It is difficult to keep the mouth open, & a cough may ensue, which is apt to be excited, & is very troublesome to the operator, tho the hæmorrhage is never so great as to be alarming - The Tonsils are sometimes removed by a ligature tied round them, so as to stop the circulation of blood in them, when this is done, the tonsil commonly dies & drops of in 4 or 5 days, tho sometimes not until the 10th, a canula must be worn over the wire all the time, so as to press the wire tight against the Tonsil, which is always inconvenient to the patient - To remedy this inconvenience in some measure - I have made it a practice to cut it off at the base after the 2nd day, by this means the time of wearing the canula is shortened & prevents ulceration in the uvula which sometimes happens ——— This sometimes necessary to open abscesses which form in the Tonsils, or scarify them, this may commonly be done with a scalpel, wrapped near to its point with some substance to prevent its wounding the

the surrounding parts – but it is better to have a lancet concealed in a canula, so constructed that the lancet may be set to any depth, & as soon as moved out, will be drawn back again, by a small spring in the canula – the advantage of this, is, that the canula hold down the Tongue, when cutting or scarifying the Tonsils –

Of the Stone

– Calculous concretions have been found in almost every part of the body – I have seen one of the size of a pea, taken from the root of the tongue – they are sometimes found in the lungs, stomach, intestines, liver gall bladder &c – but they are most commonly met with in the Urinary organs; the matter forming calculi is more redundant, in some persons, than in others – an extraneous body retained in the bladder, will serve as a nucleus, on which the calculous matter will be deposited – a clot of blood effused in the pelvis of the kidney or into the bladder, will serve as a nucleus, as will also lymph – a stone formed in these parts & drawn into, appears to be composed of a number of different layers of different colours & consistence – These stones sometimes begins to be formed in the Pelvis of the kidney – & descends along the ureters into the bladder – they are sometimes found in the prostate gland & urethra – I believe the formation of the calculi, commonly commences in the pelvis of the kidney – & while yet small, descends along the ureters into the bladder – tho' they may be sometimes entirely formed in the bladder itself – When a calculus is descending from the kidney, the patient has a heavy dull pain – this pain is sharp when the body is bent – The urine is generally of a coffee colour – sometimes blood is discharged with the urine – the irritation occasioned in the urethra, sometimes occasions vomiting, costiveness & not unfrequently a suppression of urine – when not so large the urine is small in quantity, when still smaller, it will pass easily thro' but when

when large, it excites cholic pains, high fever, vomiting &c - after being forced from the pelvis of the kidney into the ureter, the parts by which it is surrounded dilate, & suffers it to descend a little further, & thus by degrees is carried on into the bladder - sometimes in this way very large ones pass - The pain in the ureter is to be relieved by the warm bath & opium - If a suppression of urine takes place after a pain in the ureters, & the symptoms mentioned, we may conclude it arises from a stone in the bladder, & should give demulcent drinks - After the bladder is much distended, the patient should stand with his body bent forward, & then attempt to make water in a full stream - In this way when calculi are not very large, they are sometimes discharged - If it is not discharged in this way, a pain & itching is felt in the part, & the difficult discharge of a pale tinged urine takes place - It is generally pale & deposits a sediment on the side of the vessel, into which it is received if suffered to remain any time - There is a pain felt along the urethra, also tenesmus &c - sometimes a small quantity is voided - a want of sleep, indigestion & if not relieved, death is the consequence - These symptoms may arise from other causes besides a stone; as from inflammation, abscess, a swelling in the neck of the bladder, & from hamorrhoidal swellings - A stone in the bladder is sometimes attended with no one of these symptoms, or any other inconvenience whatever, & that in some cases not incisted - when these symptoms, after the symptoms of a calculi descending along the ureters we may conclude a stone to be in the bladder - a pulling of the prepuce so as considerably to elongate it, is a symptom in boys, the voiding of small calculi, a hot burning pain in the part, where the stone is lodged - But the most certain way of judging, is by

by feeling with the sound, or if you have not one at hand, a large wire bent in the form of one & passed into the bladder, by the urethra, & make the search — when it is not felt in one position, the posture of the patient should be changed; a finger introduced in ano, will assist in finding it — when it is discovered, Lithotomy is the only mode of affording relief, as never yet has any medicine been found capable of dissolving it, when in the bladder — any fluid capable of dissolving the stone, would certainly injure the bladder by exciting inflammation &c — altho' medicine is incapable of dissolving a stone in the bladder, yet, some afford relief from pain, as lime-water, uva-ursi &c — demulcent drinks are proper in all cases —

Operation of Sounding — we should be provided with sounds of different forms & sizes — we should always oil it, previous to introducing it, which in winter should be made warm, or it may be anointed with a little ointment — It should be introduced with its concave side, next to the abdomen — sometimes when the point touches the membranous part of the urethra, it stops & cannot be passed any farther — we should then withdraw & introduce it again, with the convex part towards the abdomen, & is then to be passed untill resistance is made, then turn it, the concave side next to the abdomen, taking care to turn it on the point, as an axis, or the centre of motion, after being turned, it commonly slips easily into the bladder — when this is effected, the point of the sound is to be moved in such a manner, as to touch every part of the bladder, unless the stone is felt; but if it be not discovered, the position of the patient is to be changed, raising is commonly the best way, for by doing this, the stone if it was lodged, near the neck of the bladder, will fall down to the fundus, & may then be easily felt — It may be sometimes felt, by putting the finger into the rectum; when the sound touches the stone, a sensation of heaviness & hardness is perceived, & if struck against it, a sound is emitted —

If the patient is robust, he should live for a week before the operation on a low diet, & on the day before, a mild purge should be given – oleum ricini is very suitable – a common dining table, or one not broader, than a dining table, with the leaves down – if it is lower than this, it will be inconvenient & fatiguing to the assistants as they will have to lean & stoop over the sides – The table thus provided, is to be covered with a blanket or two & a sheet – the latter to extend over the end, to be laid in the surgeons lap – a pillow is to be placed under the patients head, we should also have at hand, water, sponges & oil – also 2 fillets for tying round the wrist & ankles of the patient, we should also provide a grooved staff, scalpel, a straight sharp pointed bistoury, tied at the end of the handle to prevent its shutting, & thereby cutting the surgeons hands – A gorget which should be made with the blade seperated from the beak, for the purpose of pricing the bladder better – a one edged one will answer when the stone is small, but if large, it might be necessary to have one with two edges – before operating it will be proper to put the beak of the gorget, in the groove of the staff, to see if it moves easily – a blunt pointed bistoury is sometimes necessary, to enlarge the opening made by the gorget – It is also necessary to have forceps of various shapes & sizes, to extract the stone, after the opening is made & a scoop to aid the forceps; by this means, I was once enable to extract a large stone, which I could not otherwise have done – The manner in which I used this, was by introducing it, to one side of the forceps, which was previously fastened on the stone, in this manner the hollow part of the scoop, was applied to the stone, & in this manner acted as a third lever; we should also have a syringe with a pipe adapted to it, long enough to reach completely into the bladder, this is to pour in a stream of water, to wash away the fragments of the stone, if any should be broken off by the forceps in attempting to extract it – a tenaculum & ligatures to take up

any vessels that may be divided – wine should be at hand, in case the patient should faint – another instrument is advised by some to break the stone, when it is of a very large size – This instrument consists of a strong pair of forceps, forced together by a screw, at the handle – I never found this necessary – Before the operation, the patient should be directed to retain his urine 4 or 5 hours, that the bladder may be distended – a large dose of laudanum should be given to tranquilize the patient – any injection of barley water with a portion may be given which in some measure destroys the sensibility of the neck of the bladder – After placing him on the table, the grooved staff is to be again introduced, & the stone again felt for – the fillets are then to be tied around his wrists & feet – he should be directed to take hold of his feet – as soon as he has done it, the fillets at the wrist, are to be passed round the foot & ankle & tied to the hand, thus confining them firmly together – The day before the operation the perineum is to be shaved – an assistant on each side should confine the patient, by pulling his knee in the axilla – & taking firm hold of the feet with their hands – The groove staff introduced & held over the right groin by an assistant – an incision is then to be made, commencing first below the scrotum about an inch, & ending at a point half way between the tuberosity of the ischium & anus, so as to expose the point of the prostrate gland – the anus is to be pulled to the right side by the left hand of the operator, & the incision made on the left side of the perineum – because it is most convenient to the surgeon to cut on that side – after the urethra is laid bare, by cutting the cellular membrane, & across the transversalis perinei muscle, taking care to avoid the rectum, which should be pulled down, & opening is then to be made into it, at the membranous part, just at the point of the prostrate gland – for this purpose some advise a common

scalpel to be used - cutting with the back turned towards the prostate gland, but with a scalpel the operation is very tedious - I therefore reccommend a sharp bistoury, with this we are to pierce the urethra just before, & with its back turned towards the prostate gland - after piercing the urethra & getting the point into the groove of the staff, the point is to be drawn forward - In this manner I can make the incision in half a minute, which sometimes requires half an hour with the scalpel - The beak of the gorget is now to be applied in the groove of the staff, & moved several times backwards & forwards, to discover if it fits exactly; the staff is then to be taken from the assistant, & brought to a right angle with the body - the gorget is to be applied with the beak in the groove, & after examining, to ascertain that no part of the peruineum or other substance, is between the gorget & staff - the gorget is then to be pushed into the bladder, in such a manner that the prostrate gland may be divided on one side, by the edge of the instrument - Some urine will escape when it enters the bladder - some advise the staff now to be withdrawn, but it should be suffered to remain, untill the gorget is withdrawn, which should be done in the same direction in which it entered, or another incision will be made in the neck of the bladder - the staff is then to be taken out, & at the same time a pair of forceps introduced, & when entered the handles are to be opened by the surgeon & at the same time elevated, & then the blades applied to the stone, which commonly lays in the most depending part of the bladder - when this is done, the finger is to be passed along the side, into the bladder to feel & discover whether the stone be properly taken hold of by the forceps - if not, to place it aright with the finger, this is necessary, for sometimes the stone is caught lengthways in the forceps; it will then be necessary to turn it - after withdrawing the stone, we are to examine it, & if smooth we may conclude there was probably more than one, & if rough that it was

Q In order to examine his back & Apply blue the patient on his belly?

A No sir

Q what is your

A

Yours Another fracture

A Oblique

Q Are the displac

A yes

Q what led to displacement

A

the only one – by rough I dont mean, that it is armed all over with sharp spicula – the most certain way of ascertaining the existence of another stone, is by feeling with the fingers, or with a female sound; I have seen as many as 5 stones in one person at a time – Sometimes the stone is broken in the attempt to extract it – In such cases it has been advised to use the scoop, but this does not answer the purpose so well as the forceps; the latter should therefore be used in preference, & when by them, all the large fragments are brought away, the smaller ones are to be washed out – by a stream of warm water, poured in by a syringe with a pipe introduced thro' the incision – all the arteries cut during the operation, are to be immediately taken up – this may be commonly done with a tenaculum – but there are cases in which it cannot be done in this way – a case of this kind I formerly mentioned to you, which occurred to me, in my first attempt to perform this operation – the artery divided was the pudic – I felt for the trunk of the vessel, which I found by its pulsation, & when found I took up, by passing a tenaculum under the trunk, raising it up, passing a ligature over the part & tying it – but some cases may occur, in which the artery will continue to bleed, tho' it will not pulsate so as to be sensible to the finger; this may occur from external weakness of the vessel, we should then press on the orifice with the finger, to prevent its bleeding, till the patient is restored by giving him cordials &c – The French surgeons use a canula covered with lint & introduced so as to compress the artery, but the end of the canula may slip to one side of the urethra, & suffer the urine to flow into the cellular substance, where it will in probability induce mortification – It is best therefore to introduce the canula first & then plug up the sides with lint, but it is always best to secure it with a ligature passed around the trunk as I directed – There is sometimes some difficulty experienced in passing the ligature over the end of the Tenaculum; a canula & wire may then be used – after the operation the patient is to be put to bed – If after the operation pain takes place, in the region of the pubis, the most

efficacious means of relieving it, is by opium & the warm bath – when fever comes on the treatment should be the same as when arising from any other cause ——

Manner of extracting the stone in women –

Women are seldom troubled with this complaint, tho' they sometimes are, & an operation becomes necessary to relieve them – This is performed by simply introducing a director into the urethra, the gorget is then to be introduced into the bladder, sliding the beak along the groove of the director – when an opening is thus formed, the stone is to be extracted as in males – It has been proposed to feel about 2 or 1½ inches in the vagina, & then pierce it with the point of the bistoury, & draw it out so as to divide entirely the urethra; but I have known a case in which incontinency of urine followed this operation, tho' it wore off after some time; some prefer dilating the neck of the bladder by a knife guided by the finger entered along with it – but it is improper to pass the finger along with the knife, it may be talked of but can never be done —— In introducing the gorget in operating on either the male or female, we should not push it in, while the patient is straining, for if we do, there will be great danger of wounding the fundus & intestine or some of the contents of the ~~bladder~~ abdomen be protruded, or what is worse some of the urine escape into the cavity of the abdomen, & thus occasion peritoneal inflammation – that the fundus of the bladder is sometimes considerably forced down by straining, is proved by a case which occurred to me; it being necessary during the operation to leave the gorget a short time in the bladder, I was surprised to see it forced out of the wound by straining – straining could have had this effect in no other way, than by pushing the fundus of the bladder against the point of the gorget —— I omitted to mention an instrument advised by some of the french surgeons, for making the in-

incision into the bladder in males - it consists of a thin narrow blade, concealed in a groove director, it is so constructed, that when introduced into the bladder, by pressing on a spring it may be made to cut any depth by merely turning the handle - This instrument is used in the following manner - an incision is made thro' the membranous part of the urethra, this instrument is to be then introduced with the blade concealed, we may know when it has entered the bladder, by the escape of urine - It is to be then opened & drawn directly out, in this way the neck of the bladder will be certainly divided - but if the bladder be not distended, which is apt to be the case, from the escape of urine on its introduction, the sides are frequently cut & very much injured -

Amputation - I told you when treating of wounds, that when the parts are so injured, that they could not be healed amputation becomes necessary - if this is defered till inflammation has supervened, we must then wait untill it has subsided - Amputation likewise becomes necessary from tumours, as white swellings of the joints &c - Diseases of the joints often produce hectic fever, & the patient becomes much debilitated by night sweats, loss of appetite &c & amputation becomes necessary for his restoration - The ancient surgeons advised amputation when mortification had taken place, & even in its progressive state - This practice should always be avoided, because if the limb be taken off in its progressive state, the stump will be attacked & the patient rendered subject to another operation - But if the surgeon waits untill the mortification has stopped, & the dead part seperated, the bone will only remain to be cut, which will afford but little pain to the patient - Another cause of amputation is large tumours, causing the absorption of the ends of the bones at

at the ends of the joints - and many other causes unnecessary to detail here - We therefore proceede to the Operation — Sometimes we have to amputate the fingers - if the disease is at or near the end of the finger, it will answer very well to take it off at the 1st or 2nd joint in such a manner that a portion of the skin may be left to cover the end of the bone, this being done the edges are to be brought in contact, & kept so adhesive plaisters - & bound up by a bandage & roller, which as the arteries are small, will be sufficient to prevent haemorrhage — Sometimes it is necessary to take the finger off at its articulation with the metacarpal bone, all that is then necessary is to cut between the fingers, untill you come to the articulation, then disjoint it, & secure the vessels by ligatures, this being done, bring the edges together, & confine them by adhesive plaisters &c - a roller is then to be passed around the hand — Sometimes we are necessitated to take a metacarpal bone entirely away; this may be done at its articulation with the carpus, or sawed off at any part, where it is necessary, with a metacarpal bone saw - first seperating it from the surrounding parts, by making an incision directly over the middle of the bone, from between the fingers down to the place, you wish to take the bone off - if any vessels should be cut, take them up with a tenaculum, then bring the edges in contact & keep them so by adhesive plaister, bandage & a roller applied around the hand —

Amputation of the Leg

- The things necessary in this operation, are a compress - bandage & Tourniquett - These are to be applied if the Leg is to be amputated, just above the knee - & if the Thigh is to be amputated, they should be applied near the groin — Next a straight knife - this should be very sharp, otherwise it will mangle & contuse the parts, & if dull the skin will be thrown into folds, before the knife, & the surface of the divided edge unegular & ragged — a scalpel will be wanted - a catline or a knife with two edges - a retractor - this is a piece of Leather or linnen with 3

three tails — the middle portion is passed thro' between the Tibia & fibula, to hold or confine back the soft parts, while we are taking off the bones — a saw for cutting off the bone — it is necessary that the saw be not wide, else by bending in the bone, it will be apt to break it off before it is quite thro', leaving portions to be taken off with nippers — a pair of nippers to break off any small spicula that may remain after the saw — a Tenaculum — needles &c — Besides these it is necessary to have warm water, sponges, ligatures, lint, adhesive plaister cerate — tow, bandages &c — In proceeding to the operation, the patient should be placed on a table, covered with a blanket, or a thin firm matrass — The compress is first laid on the artery, & the Tourniquette applied on it, to stop the circulation — about an hour before the operation, the patient should take a dose of laudanum, not so much to ease the pain, as to give him fortitude, & enable him to undergo the operation, because some patients without, cannot bear it — I have known one person to faint 3 times under the same operation — The Tourniquett is to be screwed, untill the circulation is completely stopped — in order to ascertain when this effected, lay the finger on the Tibial artery, while the assistant screws the Tourniquett, by this mode we can easily tell, when the passage of blood is stopped — When the injury is low down near the foot, the surgeon has his choice where about to operate — if the patient wants to get an artificial leg, the operation should be as low down as possible, but if he does not wish an artificial one, we should then operate near the knee, which he can then bend & rest his weight on a part naturally formed, without hurting himself or suffering much inconvenience from the projection of the stump, which would be greatly in the way, provided the leg was taken of near the ankle — The inconvenience arising from a stump fro —

projecting so far behind, was so great in a person who had been operated upon near the ankle, subjected himself to a second operation near the knee, to get the use of the bend of the knee — In proceeding to operate, let an assistant draw up the knee, then take the straight knife, & make the incision round the leg — It is not necessary, that this should be all done at one stroke, as some surgeons advise — Some have recommended to make the incision straight to the bone; but I advise it to be made obliquely, so that the flesh in the back part of the leg, may come in contact with the skin, on the fore part, so as completely to cover the head of the bone — After you have cut round thro' the skin & cellular substance, dissect the integuments from the muscles, & turn them back, & then divide the muscles down to the bones — this being done take the catline, & divide the interosseous ligament & muscles, & pass the middle strap of the retractor, between the bones to draw back the soft parts, then saw the bone — some advise to hold the saw so as to cut both bones at once, this is often inconvenient & we should saw just which way is most convenient — we should first saw the fibula & then the Tibia — It is necessary to make long strokes with the saw, otherwise it may become clog'd — after the leg is taken off, wash the surface in warm water, & then search for the principle arteries, which must be drawn out with a Tenaculum & secured by a ligature — after the principle arteries, & all the minute ones, which can be seen, are secured; the Tourniquett should be loosend, to see if any arteries bleed, & to ascertain this more completely, warm water should be poured on the part, & the patient allowed a little wine & water, to quicken the circulation, so as to expose all the bleeding vessels to view; when you have secured all the vessels in this manner, wash out all clots of blood, take off the Tourniquett, & draw down the integuments, so as to cover the ends of the bones, & wrap a bandage around the stump, to prevent the contraction of the muscles, then

then secure the edges of the wound in contact by adhesive plaister, but before the application of the plaisters, the ends of the ligatures should be brought out to a corner of the wound, a peice of lint spread with cerate, is to be introduced between the edges, to prevent their union by the 1st intention - for if they unite before the ligatures come away, they will prevent the serum from being thrown out, & an abscess will be formed, occasioning great pain to the patient - after the adhesive plaister is applied, apply lint spread with simple cerate, then a pledget of tow, then the in a crucial form, & secure them by a roller - the Tourniquet should be left loosely on, after the leg is dissed, to be in readiness in case hemorrhage should take place, & should be made to rest, with the stump placed on a pillow -

Amputation of the Thigh - The instruments in this are nearly the same, as those for amputating the leg, only the Cattine is not wanted & the retractor should be slited only in the middle, instead of 3 tails, it should have but two - This operation is to be performed as low down as possible, but so high up as to be above the diseased parts - After making an incision thro the skin, dissect the integuments in the same manner as directed in amputating the Leg, & then divide the muscles down to the bone, after washing it in the manner formerly directed, take up all the vessels, both arteries & veins, which are of any size - In old people the arteries are sometimes found ossified, in such cases pass a needle with a ligature, around the vessel, including a portion of the adjacent muscle, in order more effectually to prevent hamorrhage - all other processes are simila to those, advised in amputating the Leg -

Strictures in the urethra — By stricture is meant the diminution of the diameter of any canal, at a particular part — when they occur in the urethra they most commonly happen near the neck of the bladder — tho they sometimes happen near the middle of the urethra — sometimes beyond the bulb at the membranous part — They are of two kinds — 1st The spasmodic — 2nd The permanent — The first effect of a stricture in the urethra, is an impediment to the flow of urine — & often the patient does not suspect any disease, until in voiding his urine, he finds it to pass in a very small stream, & frequently by drops — He will now have frequent attempts to pass water, but a little at a time, & at length strangury supervenes — The parts situated between the stricture & bladder become very much dilated, & the other part diminished, resembling in its effects, a string tied around the penis — The stricture most commonly extends regularly around the penis, but not always, for it is sometimes found on one side only —

The causes, are cold applied to the urethra, cold feet, & the intemperate use of strong drink, & in no case I have seen, was the cause — The great difficulty of not knowing the cause, is the reason why it is generally not treated more successfully — Note — The professor might have noted, Gonnorrha & the intemperate use of venery, as the most frequent cause of this distressing disease —

Treatment — The permanent stricture may be generally dilated & removed by the use of bougies — much depends on the manner of preparing bougies — I generally use waxed linen — pieces or slips of fine linen cut to a point, & dipped in melted wax, & rolled smooth up make the best bougies — the point must be small, but the body sufficiently stiff, to bear the force necessary to introduce it — The bougie

may be introduced as far as it will enter, & left for sometime with the point in contact with the stricture, till the irritation has subsided, & then push it gently forward, by which means the stricture will be frequently overcome, & allow the bougie to pass - Sometimes the patient faints, on the introduction of a bougie, & a cold sweat breaks out all over him - if the stricture be small, it may be then dilated - It will sometimes succeed by passing or suffering the patient to pass a bougie up to the stricture, & keeping it there, an hour or more, by this time the irritation as before observed subsides, & the parts become partially relaxed ——— Sometimes the canal of the urethra is thrown to one side, making the passage irregular - When this occurs the point of the bougie is to be bent, so as to accommodate it to the form of the canal, & then introduce it - sometimes the irritation, & the accumulation of urine preying on the part, causes ulceration of some of the parts behind the stricture, forming an artificial opening - In such cases there are two modes of relief, either by caustic or by the lancet - The use of caustic was first introduced by Mr. Hunter, & afterwards by Mr. Jones - I have used it myself in several cases, with the happiest effect - The caustic is rolled up in the end of a bougie, & tied by a piece of fine thread - The end of the bougie may project a little, to prevent the caustic from burning the canal, before it gets to the stricture - a small cap of waxed linen, sewed to a fine thread, & fixed on the end of it, answers very well; when the bougie is passed down to the stricture, the case may be withdrawn by means of the thread ——— When the stricture is at the bulb of the urethra, it may be divided by a lancet, defended by a silver camula, when the lancet is introduced as far as the stricture, the lancet may be pushed forward, so as to divide it - But the circumstance of the curve of the urethra, renders it difficult to divide it, in this manner when situated farther back - tho' in this case a curved camula, with a lancet accommodated to it, might an-

answer the purpose — After the stricture is dilated, a bougie or catheter should be introduced, & kept in for several days — When if even there should be a fistula in perinæo, it will probably heal up in a few days —

In spasmodic strictures, the use of caustic is improper — The warm bath — anodyne injections in urethra etc, are frequently of great service — a piece of a smooth tobacco leaf, wrapped round a bougie, & introduced, so as to come in contact with the strictured part, is also frequently of essential service —

Suppression of Urine — This is always accompanied with great pain in the Bladder & abdomen —

The following causes frequently produce a suppression —

1st Tumours —

2 Abscesses in the neighbourhood of the anus —

3 A stone falling into the neck of the bladder —

4 calculi in the urethra — These may be extracted either by spring forceps, mentioned by Dr. Physic — by a scoop'd probe, or by cutting down to the stone with a scalpel —

5 Spasmodic constriction of the neck of the bladder —

6 swelling of the prostrate gland —

7 spasms occurring after the removal of a stricture by the lancet or caustic — Force should never be used in passing the bougie —

The Remedies are —

1st Bloodletting — this is often necessary, it may be carried to a great extent, even ad deliquium animi —

2 — The catheter may be employed — the french flexible ones are the best — They are made of an elastic substance & may be retained in the urethra 10 or 12 days, without detriment to the patient — when we are

called in a hurry & a catheter cannot be procured, a tolerable one may be made by covering the wire of a suspendor with waxed linen – it is a good substitute –

3d Clysters of Tobacco or any other ~~substitute~~ material –

4 Cathartics

5 Emetics – they have been lately highly recommended –

6 Tinctura ferri – Mumat

7 The warm bath, untill the patient feels fainty –

8 opium either by the mouth, or by injections per anum –

9 Rubbing the part with volatile liniment, has been used, but with little success –

10 Blisters –

11 Dipping the Penis in a bason of cold water –

12 Infusion of Tobacco or the smoke injected up the rectum –

The pulse should be carefully attended to, & if V. S. be indicated it should be freely used – Frequently the bougie can be passed when the catheter cannot, in this case a bougie point must be fastened on the catheter, & secured by two threads & then passed into the bladder, it may then be extracted by the strings, which should be always long enough, to hang out of the urethra –

If these means fail, the lancet guarded as above directed must be employed – Sometimes the urethra is entirely closed thro its whole extent, it then becomes necessary to puncture the bladder, which may be done in 3 ways –

1st When its much distended by urine, it may be safly punctured above the os pubis – This must not be done unless the bladder be greatly distended, for we should run a risk of puncturing the peritoneum & letting the urine into the abdomen –

2nd From the rectum – The finger well lubricated, must be introduced up beyond the prostate gland, about an inch, then with

the finger serving as a director, the Raphe must be punctured with a crooked trochar, taking care to avoid the vas deferens & the adjacent parts - a female or flexible catheter must be introduced, & suffered to remain 24 or 36 hours - The urine does not flow constantly only when the bladder is distended -

3d By cutting down along the raphe as in Lithotomy, the finger must serve as a director to the puncturing instrument -

4th The French surgeons sometimes operate as in Lithotomy using a director & a Trochar - this is safer than the last -

In puncturing the bladder from the rectum, a puncture must be made as in Lithotomy, & the bladder punctured a little above, & to the left side of the prostrate gland -

In women the Bladder may be punctured from the vagina, the finger must here serve as a director, & the puncture made so as to avoid the ureters - The canula may be left in the wound as long as the cause of suppression exists -

Stictures often take place in the oesophagus - they may be relieved by a large bougie made of the same materials as the common ones -

a rupture of the sinews of ~~the~~ gastrocnemius just above
A joins the tendon - patients often complain of the sensible of the snap
~~treatment~~ just like a rupture of the tendo achilles - ~~in 5 or 6~~
~~weeks it will get well~~ - should keep the dressings on 5 or 6
weeks even till any inflamatory symptom has subsided - an
ecchymosis sometimes takes place, from the ruptured vessels which soon
subsides

When it has not been treated properly

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